First Revision No. 1-NFPA 1917-2016 [Sections 1.1, 1.2]

1.1* Scope.

This standard shall define the minimum requirements for the design, performance, and testing of new and refurbished automotive ambulances used for out-of-hospital medical care and patient transport.

1.2 Purpose.

The purpose of this standard shall be to establish the minimum requirements for new and refurbished automotive ambulances that are safe and reliable when properly maintained and used within their design parameters.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:26:18 EST 2016

Committee Statement

Committee Statement: The committee has made these changes as it permits the inclusion of remounts and refurbishment in the document. The committee feels the need for a remount and refurbishment standard on previously in-service ambulances is pressing. This sentence was introduced into the Standard language as a place holder until such a time as either a) a stand-alone remount and refurbishment standard is developed and referenced, b) a new chapter is added to NFPA 1917 addressing remounts and refurbishments, or c) additions are made to NFPA 1912 to incorporate ambulances.

Response Message:

First Revision No. 2-NFPA 1917-2016 [Section No. 1.3.1]

1.3.1

This standard shall apply to new ambulances that are contracted for on or after January 1, ~~2016~~ 2019 .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:27:35 EST 2016

Committee Statement

Committee Statement: This change was made for document consistency.
Response Message:

First Revision No. 3-NFPA 1917-2016 [Section No. 1.3.2]

1.3.2

This standard shall not apply to the following:

~~Refurbished and remounted vehicles~~

(1) Vehicles that are used for transport of more than two stretcher-bound patients at the same time

(2) Mass casualty vehicles

(3) Military field ambulances

(4) Vehicles intended for use as fire apparatus as specified in NFPA 1901 or NFPA 1906

(5) Wheeled chair transport vehicles

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:28:21 EST 2016

Committee Statement

Committee Statement: The committee has made this change for document consistency and to permit the inclusion of remounts and refurbishment in the document. The committee feels the need for a remount and refurbishment standard on previously in-service ambulances is pressing. This sentence was introduced into the Standard language as a place holder until such a time as either a) a stand-alone remount and refurbishment standard is developed and referenced, b) a new chapter is added to NFPA 1917 addressing remounts and refurbishments, or c) additions are made to NFPA 1912 to incorporate ambulances.

Response Message:

First Revision No. 77-NFPA 1917-2016 [Section No. 2.2]

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471, www.nfpa.org.

NFPA 70®, National Electrical Code®, ~~2014~~ 2017 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus,* 2016 edition.

NFPA 1906, *Standard for Wildland Fire Apparatus,* 2016 edition.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Mon Dec 12 17:10:39 EST 2016

Committee Statement

Committee Statement: This change was to update edition dates for referenced documents.
Response Message:

First Revision No. 70-NFPA 1917-2016 [Section No. 2.3.2]

2.3.2 ANSI Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036, www.ansi.org.

~~ANSI S1.4, *Specification for Sound Level Meters* , 1983, Revised 2006.~~

ANSI Z535.4, *Product Safety Signs and Labels*, 2011.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:48:08 EST 2016

Committee Statement

Committee Statement: Updating references resulting from FR2 and to delete references not used within the document.
Response Message:

Public Input No. 19-NFPA 1917-2016 [Chapter 2]

First Revision No. 71-NFPA 1917-2016 [Section No. 2.3.3]

2.3.3 ASTM Publications.

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

ASTM D4956, *Standard Specification for Retroreflective Sheeting for Traffic Control*, ~~2013~~ 2016a .

ASTM E661, *Standard Test Method for Performance of Wood and Wood-Based Floor and Roof Sheathing Under Concentrated Static and Impact Loads*, 2003 (~~2009~~ 2015).

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:49:54 EST 2016

Committee Statement

Committee Statement: Updating references as noted in FR2.
Response Message:

First Revision No. 72-NFPA 1917-2016 [Section No. 2.3.4]

2.3.4 IPC Publications.

IPC, 3000 Lakeside Drive, 309 S, Bannockburn, IL 60015, www.ipc.org.

IPC A-~~610E~~ 610F , *Acceptability of Electronic Assemblies*, ~~2005~~ 2014, Amendment 1, 2015 .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:51:05 EST 2016

Committee Statement

Committee Statement: Updating references as noted in FR2.
Response Message:

First Revision No. 73-NFPA 1917-2016 [Section No. 2.3.5]

2.3.5 ISO Publications.

International Organization for Standardization, ~~1, ch. de la Voie-Creuse, Case postale 56, CH-1211~~ ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva 20, Switzerland, www.iso.ch.net.

ISO/IEC 17020, *General Criteria for the Operation of Various Types of Bodies Performing Inspection*, 2012.

ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*, 2005.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:52:11 EST 2016

Committee Statement

Committee Statement: Updating references as noted in FR2.
Response Message:

First Revision No. 59-NFPA 1917-2016 [Section No. 2.3.6]

2.3.6 National Truck Equipment Association (NTEA) Publications.

NTEA The Association for the Work Truck Industry, 37400 Hills Tech Drive, Farmington Hills, MI 48331-3414, www.ntea.com

AMD 001, *Ambulance Body Structure Test*, 2014.

AMD ~~004~~ 003 , ~~*Litter Retention System Test*~~ *Oxygen Tank Retention System Static Test* , 2014.

AMD 005, *Low Voltage Electrical System Test*, 2014.

AMD 006, *Patient Compartment Sound Level Test*, 2014.

AMD 008, *Handrail Static Load Test*, 2014.

AMD 010, *Water Leak Test*, 2014.

AMD 011, *Equipment Temperature Test*, 2014.

AMD 012, *Interior Climate Control Test*, 2014.

AMD 015, *Ambulance Main Medical Gas System Test*, 2014.

AMD 016, *Patient Compartment Lighting Level Test*, 2014.

AMD 018, *Rear Stepping Surface Load Test*, 2014.

AMD 021, *Aspirator System Test*, 2014.

AMD 024, *Perimeter Illumination Test*, 2014.

AMD 025, *Occupant Head Clearance Zones Test*, 2014.

AMD ~~009~~ 027 , *Line Voltage Electrical Systems Test*, 2014.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:16:53 EST 2016

Committee Statement

Committee Statement: These changes were made to update referenced documents.
Response Message:

First Revision No. 60-NFPA 1917-2016 [Section No. 2.3.7]

2.3.7 SAE Publications.

Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096, www.sae.org.

SAE J156, *Fusible, Links,* 2010.

SAE J551/1, *Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats (up to 15 m), and Machines (16.6 Hz to 18 GHz)*, 2010.

SAE J553, *Circuit Breakers*, 2004.

SAE J554, *Electric Fuses (Cartridge Type)*, 2010.

SAE J575, *Test Methods and Equipment for Lighting Devices and Components for Use on Vehicles Less Than 2032 mm in Overall Width*, 2010.

SAE J576, *Plastic Material or Materials for Use in Optical Parts Such as Lenses and Reflex Reflectors of Motor Vehicle Lighting Devices*, 2010.

SAE J578, *Color Specification*, 2006.

SAE J595, *Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles*, 2005.

SAE J683, *Tire Chain Clearance — Trucks, Buses (Except Suburban, Intercity, and Transit Buses), and Combinations of Vehicles*, 1985.

SAE J689, *Curbstone Clearance, Approach, Departure, and Ramp Breakover Angles*, 2009.

SAE J845, *Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles*, 2007.

SAE J994, *Alarm — Backup — Electric Laboratory Performance Testing*, 2009.

SAE J1127, *Low Voltage Battery Cable*, 2010.

SAE J1128, *Low Voltage Primary Cable*, 2011.

~~J1318, *Gaseous Discharge Warning Lamp for Authorized Emergency, Maintenance, and Service Vehicles* , 2009.~~

SAE J1318, *Gaseous Discharge Warning Lamp for Authorized Emergency, Maintenance, and Service Vehicles* , 2009.

SAE J1330, *Photometry Laboratory Accuracy Guidelines*, 2007.

SAE J1849, *Emergency Vehicle Sirens*, 2008.

SAE J1888, *High Current Time Lag Electric Fuses*, 1990.

SAE J1889, *L.E.D. Signal and Marking Lighting Devices*, 2011.

SAE J2077, *Miniature Blade Type Electrical Fuses*, 1990.

SAE J2202, *Heavy Duty Wiring Systems for On-Highway Trucks*, 2004.

SAE J2420, *COE Frontal Strength Evaluation — Dynamic Loading Heavy Trucks*, 2003.

SAE J2422, *Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks*, 2003.

SAE J3026, *Ambulance Patient Compartment Seating Integrity and Occupant Restraint*, ~~2014~~ 2016 .

SAE J3027, *Ambulance Litter Integrity, Retention, and Patient Restraint*, ~~2014~~ 2016 .

SAE J3043, *Ambulance Equipment Mounts*, 2014.

SAE J3057, *Ambulance Modular Body Evaluation-Quasi-Static Loading For Type I and Type III Modular Ambulance Bodies* , 2016.

SAE J3058, *Ambulance Interior Storage Compartment Integrity* , 2016.

SAE J3102, *Ambulance Patient Compartment Structural Integrity Test to Support SAE J3027 Compliant Litter Systems* , 2016.

Submitter Information Verification

Submitter Full Name: Ken Holland

Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:21:00 EST 2016

Committee Statement

Committee Statement: These changes were made in order to update referenced documents and to include new ones that have been added to the document.
Response Message:

First Revision No. 4-NFPA 1917-2016 [Section No. 2.3.8]

2.3.8 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096, www.ul.com.

ANSI/UL 153, *Standard for Portable Electric Luminaires*, 2002, revised ~~2013~~ 2015 .

ANSI/UL 498, *Standard for Safety Attachment Plugs and Receptacles*, 2012, revised ~~2013~~ 2016 .

ANSI/UL 969, *Standard for Marking and Labeling Systems,* 1995, revised ~~2008~~ 2014 .

ANSI/UL 1598, *Luminaires*, 2008, revised ~~2011~~ 2013 .

ANSI/UL 2034, *Standard for Safety, Single and Multiple Station Carbon Monoxide Alarms*, 2008, revised ~~2009~~ 2016 .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:36:13 EST 2016

Committee Statement

Committee Statement: This proposal updates the UL Standards to the current referenced edition.
Response Message:

Public Input No. 37-NFPA 1917-2016 [Section No. 2.3.8]

First Revision No. 78-NFPA 1917-2016 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

NFPA 70®, National Electrical Code®, ~~2014~~ 2017 edition.

NFPA 1451, *Standard for a Fire and Emergency Service Vehicle Operations Training Program,* ~~2013~~ 2018 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus,* 2016 edition.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Mon Dec 12 17:11:48 EST 2016

Committee Statement

Committee Statement: This change was to update edition dates for referenced documents.
Response Message:

First Revision No. 61-NFPA 1917-2016 [New Section after 3.3.11.1]

3.3.11.2 Interior Storage Compartment.

A cabinet, drawer, pouch style system, or other means used to contain and secure EMS supplies, tools, medical devices, or other equipment within an enclosed area.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:25:09 EST 2016

Committee Statement

Committee Statement: The committee has added this new definition to the document as it has been used in the main body of the document.
Response Message:

First Revision No. 62-NFPA 1917-2016 [Section No. 3.3.11.1]

3.3.11.1 ~~Enclosed~~ Exterior Compartment.

A weather-resistant area designed to protect stored items from environmental damage that is confined on six sides and equipped with an access opening(s) that can be closed and latched.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:27:14 EST 2016

Committee Statement

Committee Statement: The committee has made this change due to changes made in the main body of the document.
Response Message:

First Revision No. 5-NFPA 1917-2016 [Section No. 4.5]

4.5 Legal Requirements.

The ambulance shall comply with ~~the following:~~ state regulations as specified by the purchaser.

~~Applicable federal regulations~~

~~State regulations as specified by the purchaser~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:48:01 EST 2016

Committee Statement

Committee Statement: The purchasers need to specify the requirements for their states and what is required of their state laws that is not already addressed by existing federal requirements.
Response Message:

First Revision No. 79-NFPA 1917-2017 [Section No. 4.6 [Excluding any Sub-Sections]]

~~Where this standard requires the witnessing or performing of tests~~ The following type tests shall be required to be witnessed or performed by an independent third-party organization, that organization shall meet the requirements of this section~~.~~ :

(1) AMD 001, *Ambulance Body Structure Test*

(2) AMD 004, *Litter Retention System Test*

(3) AMD 006, *Patient Compartment Sound Level Test*

(4) AMD 008, *Handrail Static Load Test*

(5) AMD 011, *Equipment Temperature Test*

(6) AMD 012, *Interior Climate Control Test*

(7) AMD 016, *Patient Compartment Lighting Level Test*

(8) AMD 018, *Rear Stepping Surface Load Test*

(9) AMD 024, *Perimeter Illumination Test*

(10) SAE J3026, *Ambulance Patient Compartment Seating Integrity and Occupant Restraint*

(11) SAE J3027, *Ambulance Litter Integrity, Retention, and Patient Restraint*

(12) SAE J3043, *Ambulance Equipment Mounts*

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 24 11:18:10 EST 2017

Committee Statement

Committee Statement: The committee has made these changes in order to eliminate confusion regarding the testing and certification of ambulances.
Response Message:

First Revision No. 80-NFPA 1917-2017 [Section No. 4.7 [Excluding any Sub-Sections]]

~~Where this standard requires the results of tests or the performance of a component to be certified by the manufacturer, the manufacturer shall meet the requirements of this section.~~ [~~**1901:** 4.8~~]

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 24 11:24:09 EST 2017

Committee Statement

Committee Statement: The committee has made these changes in order to eliminate confusion regarding the testing and certification of ambulances.
Response Message:

First Revision No. 81-NFPA 1917-2017 [Section No. 4.7.1]

4.7.1

The ambulance manufacturer shall test and certify each ambulance ~~in accordance with~~ according to the following standards :

(1) AMD 005, *Low Voltage Electrical System Test*

(2) AMD 010, *Water Leak Test*

(3) AMD 015, *Ambulance Main Medical Gas System Test*

(4) AMD 021, *Aspirator System Test*

(5) AMD 025, *Occupant Head Clearance Zones Test*

(6) AMD 027, *Line Voltage Electrical Systems Test*

4.7.2

Where the standard requires a component to be tested, the ambulance manufacturer shall either test individual components themselves or rely on the component manufacturer's testing and certification on any individual component used in the ambulance.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 24 11:24:43 EST 2017

Committee Statement

Committee Statement: The committee has made these changes in order to eliminate confusion regarding the testing and certification of ambulances.
Response Message:

First Revision No. 6-NFPA 1917-2016 [Section No. 4.9.2.4]

~~4.9.2.4~~

~~Lever controls, equipment, items, and devices shall be installed, located, and stowed for the convenience of the purpose intended and shall not interfere with the EMSP's or the patient's ingress into or egress from compartments.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:53:14 EST 2016

Committee Statement

Committee Statement: The committee has chosen to delete this text as it is unclear and unnecessary.
Response Message:

Public Input No. 43-NFPA 1917-2016 [Section No. 4.9.2.4]

First Revision No. 7-NFPA 1917-2016 [Section No. 4.9.2.5]

4.9.2.4

Marking of switches, indicators, and control devices shall be perceptively and permanently identified with at least ~~12-point letters for the noun or function and 8-point letters for the remainder of the legend~~ 3 mm high letters and/or symbol at least 10 mm by 10 mm .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:54:55 EST 2016

Committee Statement

Committee Statement: The committee agrees with what the submitter was attempting to accomplish, however they believe that this text is more appropriate.
Response Message:

Public Input No. 18-NFPA 1917-2016 [Section No. 4.9.2.5]

First Revision No. 8-NFPA 1917-2016 [New Section after 4.9.2.6]

4.10 Vehicle Data Recorder.

All ambulances built to this standard shall be equipped with an on-board vehicle data recorder (VDR).

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:57:44 EST 2016

Committee Statement

Committee Statement: The committee has added this new requirement to increase safety within the vehicle.
Response Message:

First Revision No. 9-NFPA 1917-2016 [Section No. 4.13.1]

~~4.14.1~~

~~The ambulance shall be designed so that all the manufacturer's recommended routine maintenance checks of lubricant and fluid levels can be performed by the operator without the need for hand tools.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 14:59:50 EST 2016

Committee Statement

Committee Statement: The ability of the operator to perform routine maintenance checks of lubricants and fluid levels without the need for hand tools is wholly dependent upon the chassis manufacturer and completely outside of the control of the ambulance manufacturer. As much as the ambulance manufacturers would like to be able to impose such requirements on the chassis manufacturers, they have no leverage for doing so. For that reason, and because the chassis manufacturers have an excellent record for doing what this section requires, this section adds no value to the 1917 standard.

Response Message:

Public Input No. 44-NFPA 1917-2016 [Section No. 4.13.1]

First Revision No. 10-NFPA 1917-2016 [Section No. 4.15.2]

~~4.16.2~~*

~~The ambulance manufacturer shall calculate the load distribution plan for the ambulance and deliver that load distribution plan with the ambulance.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:00:29 EST 2016

Committee Statement

Committee Statement: The ambulance manufacturer performs a load distribution plan before the ambulance is manufactured as a basis for the chassis selection and module design. At the time of delivery, the plan has no purpose, meaning, or value to the Purchaser. The only thing that counts is the actual weight distribution. The actual weight distribution is already included in the documentation required by section 4.16.1, item (1)(k).

Response Message:

Public Input No. 45-NFPA 1917-2016 [Section No. 4.15.2]

First Revision No. 11-NFPA 1917-2016 [Section No. 4.17 [Excluding any Sub-Sections]]

The entity responsible for final assembly of the ambulance shall deliver with the ambulance a certification that the ambulance, at the time of delivery, complies with the minimum requirements of this standard or, when exceptions to this standard are required by the purchaser, a statement of exceptions ~~based on any exceptions to this standard that are required to meet the specifications of the purchaser~~ shall be ~~listed~~ provided and attached to the owner's manual.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:06:02 EST 2016

Committee Statement

Committee Statement: The proposed edits make the requirement easier to read and understand.
Response Message:

Public Input No. 47-NFPA 1917-2016 [Section No. 4.17 [Excluding any Sub-Sections]]

First Revision No. 12-NFPA 1917-2016 [Section No. 4.17.1]

4.18.1

The statement of exceptions shall contain for each exception a separate listing of the ~~at the time of delivery~~ section(s) of the applicable standard for which an exception has occurred.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:06:48 EST 2016

Committee Statement

Committee Statement: The committee agrees with what the submitter wanted to add, however due to MOS we needed to move the added text to a new section as each section can only contain one requirement.
Response Message:

Public Input No. 48-NFPA 1917-2016 [Section No. 4.17.1]

First Revision No. 13-NFPA 1917-2016 [Section No. 5.2.1.2]

~~5.2.1.2~~

~~The front GAWR shall be not less than 20 percent of the GVWR.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:08:58 EST 2016

Committee Statement

Committee Statement: It is unnecessary and inappropriate to first specify that the axle weight distribution needs to be as specified by the chassis manufacturer and then to independently specify what the distribution should be. It needs to be one way or the other. For purposes of FMVSS pass-through certification, the only logical path is to follow the chassis manufacturer guidelines. Because that is adequately specified in 5.2.1.1, this section should be deleted.

Response Message:

Public Input No. 49-NFPA 1917-2016 [Section No. 5.2.1.2]

First Revision No. 14-NFPA 1917-2016 [Section No. 5.2.1.3]

~~5.2.1.3~~

~~The rear GAWR shall be not less than 50 percent of the GVWR.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:09:53 EST 2016

Committee Statement

Committee Statement: It is unnecessary and inappropriate to first specify that the axle weight distribution needs to be as specified by the chassis manufacturer and then to independently specify what the distribution should be. It needs to be one way or the other. For purposes of FMVSS pass-through certification, the only logical path is to follow the chassis manufacturer guidelines. Because that is adequately specified in 5.2.1.1, this section should be deleted.

Response Message:

Public Input No. 50-NFPA 1917-2016 [Section No. 5.2.1.3]

First Revision No. 15-NFPA 1917-2016 [Section No. 5.2.5]

~~5.2.5~~

~~The manufacturer shall design the ambulance to comply with the GAWR, the overall GVWR, and the chassis manufacturer's load balance guidelines.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:10:27 EST 2016

Committee Statement

Committee Statement: Compliance with 5.2.1.1 ensures compliance with this section. Because this section adds nothing that is not covered by 5.2.1.1, this section should be deleted.
Response Message:

Public Input No. 51-NFPA 1917-2016 [Section No. 5.2.5]

First Revision No. 16-NFPA 1917-2016 [Section No. 5.3.1.1]

~~5.3.1.1~~

~~The chassis engine shall start and run for 5 minutes without stalling at 0°F (−18°C) without the use of external power or starting fluids and without the aid of engine block preheating devices (except glow plugs or combustion air pre-heater).~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:12:04 EST 2016

Committee Statement

Committee Statement: While this is a logical requirement, it is completely beyond the control of the ambulance manufacturer and is totally dependent upon the chassis selection which is typically made by the Purchaser. If the Purchaser picks a chassis that does not meet this requirement, there will likely be nothing the ambulance manufacturer can do to fix it. Accordingly, this should be included as an Annex item, recommending that the Purchaser select a chassis that meets this requirement.

Response Message:

Public Input No. 52-NFPA 1917-2016 [Section No. 5.3.1.1]

First Revision No. 17-NFPA 1917-2016 [Section No. 5.4.1]

5.4.1*

An engine speed auxiliary control device (high-idle switch, throttle, or automatic voltage monitor) shall be installed to allow an increase in the engine speed to no more than 1600 revolutions per minute when the ambulance is parked, unless the ambulance's patient compartment primary source of low voltage electrical power is an independent generator.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:13:07 EST 2016

Committee Statement

Committee Statement: The committee agrees with what the submitter was attempting to accomplish, and believe that this new text meets that.
Response Message:

Public Input No. 23-NFPA 1917-2016 [Section No. 5.4.1]

First Revision No. 82-NFPA 1917-2017 [Section No. 5.5]

~~**5.5** Cooling System.~~

~~**5.5.1***~~

~~The engine's cooling system shall maintain a temperature at or below the engine manufacturer's maximum coolant temperature.~~

Submitter Information Verification

Submitter Full Name: Sonia Barbosa
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 24 11:55:10 EST 2017

Committee Statement

Committee Statement: This is a logical requirement. But really, is there any ambulance chassis whose engine cooling system is not designed to maintain a temperature at or below the engine manufacturer's maximum coolant temperature? This requirement adds no value to the standard. Associated annex material should be deleted as well.

Response Message:

Public Input No. 53-NFPA 1917-2016 [Section No. 5.5.1]

First Revision No. 19-NFPA 1917-2016 [Section No. 5.7.1]

~~5.6.1~~

~~All brakes shall be accessible for inspection.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:16:25 EST 2016

Committee Statement

Committee Statement: Unless someone can think of a way that adding an ambulance module can make brakes inaccessible for inspection, this requirement should be removed. Brakes should definitely be accessible for inspection, but that is the only way they are made.

Response Message:

Public Input No. 54-NFPA 1917-2016 [Section No. 5.7.1]

First Revision No. 20-NFPA 1917-2016 [Section No. 5.9.3.1]

5.8.3.1

Mud flaps, at least as wide as the tire(s), shall be provided behind the front and rear wheels ~~and shall be reinforced at the point of attachment to the vehicle~~ .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:17:00 EST 2016

Committee Statement

Committee Statement: The requirement for reinforcement is arbitrary and unjustified. If the reinforcement is in the form of doubled thickness, for example, that would be no better than a mud flap that was made double thickness to begin with. Moreover, the term "reinforced" is vague. Adding a fender washer, for example, could constitute reinforcement. If there is a specific strength requirement, that should be specified. Otherwise the reinforcement requirement should be removed.

Response Message:

Public Input No. 55-NFPA 1917-2016 [Section No. 5.9.3.1]

First Revision No. 21-NFPA 1917-2016 [Section No. 5.11.1]

~~5.10.1~~

~~A front bumper shall be furnished in the front of the chassis that is at least the equivalent of the chassis manufacturer's OEM bumper.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:19:17 EST 2016

Committee Statement

Committee Statement: The requirement is logical but unnecessary. There is no motivation for a Purchaser or ambulance manufacturer to spend extra money to remove a viable OEM bumper and replace it with an inferior bumper. Also, by deleting this text the associated annex material will now be associated with 5.11

Response Message:

Public Input No. 57-NFPA 1917-2016 [Section No. 5.11.1]

First Revision No. 23-NFPA 1917-2016 [Section No. 5.11.2.8.3]

5.10.9.3

The distance from the road surface to the top surface of the first step at the rear bumper shall not exceed 22 in. (559 mm) with the vehicle loaded to its GVWR and/or the suspension in the kneeling condition.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:22:30 EST 2016

Committee Statement

Committee Statement: Section 5.11 is for bumpers. Clarify that the maximum step height applies to the step at the rear bumper. (If the intent was to also make it applicable to the side door step, add that requirement to a new section covering the side door step.)

Response Message:

Public Input No. 58-NFPA 1917-2016 [Section No. 5.11.2.8.3]

First Revision No. 24-NFPA 1917-2016 [Section No. 6.1.2]

6.1.2

~~A minimum of 10 in. (254 mm) shall be provided from the nearest~~ The distance from the rear door to the edge of the cot mattress ~~to the loading door(s)~~ shall be determined by the AHJ .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:32:09 EST 2016

Committee Statement

Committee Statement: The committee agrees with what the submitter is attempting to accomplish, however they believe that there should be some space between the edge of the cot mattress and the rear door, but that space should be determined by the AHJ.

Response Message:

Public Input No. 62-NFPA 1917-2016 [Section No. 6.1.2]

First Revision No. 25-NFPA 1917-2016 [Section No. 6.3]

6.3 Structural Integrity — Roof Loading.

6.3.1

Any Type I ~~or~~ , Type I-AD, ~~ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to the roof of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with AMD 001, *Ambulance Body Structure Test*~~ Type III, or Type III AD ambulance body shall meet the performance requirements of SAE J3057, *Ambulance Modular Body Evaluation-Quasi-Static Loading For Type I and Type III Modular Ambulance Bodies* .

6.3.2

Any Type II ambulance ~~body shall withstand a force equal to 1.5 times the curb weight of the vehicle applied to the roof of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with AMD 001, *Ambulance Body Structure Test* .~~ with a gross vehicle weight rating of 10,000 lb or less shall meet the performance requirements described in FMVSS 216a, *Roof crush resistance* .

6.3.3

Any Type ~~III or Type III-AD ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to the roof of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with AMD 001, *Ambulance Body Structure Test*~~ II ambulance with a gross vehicle weight rating of greater than 10,000 lb shall meet the performance requirements described in AMD 001, *Static Load Test for Ambulance Body Structure* .

~~6.3.4~~

~~The downward vertical movement at any point on the roof application plate shall not exceed 5.12 in. (130 mm).~~

~~6.3.5~~

~~Each exterior egress door of the vehicle shall be capable of opening and closing during the full application of the force and after release of the force.~~

~~6.3.6~~

~~No structural damage to any load bearing or supporting members (e.g., torn or broken material, broken welds, popped or sheared body rivets, bolts, and/or fasteners) shall be evident during the application of the force and after the release of the force.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:40:22 EST 2016

Committee Statement

Committee Statement: The committee agrees with what the submitter is attempting to accomplish, however they believe this text is more appropriate.
Response Message:

Public Input No. 63-NFPA 1917-2016 [Section No. 6.3]

First Revision No. 26-NFPA 1917-2016 [Section No. 6.4]

~~**6.4** Body Structural Integrity — Side Loading.~~

~~**6.4.1**~~

~~Any Type I or Type I-AD ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to either the driver or passenger side of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with AMD 001, *Ambulance Body Structure Test* .~~

~~**6.4.2**~~

~~Any Type III or Type III-AD ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to either the driver or passenger side of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with AMD 001, *Ambulance Body Structure Test* .~~

~~**6.4.3**~~

~~Each exterior egress door of the vehicle shall be capable of being opened and closed during the full application of the force and after release of the force.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:47:24 EST 2016

Committee Statement

Committee Statement: This text is being deleted as it has been addressed in a previous section.
Response Message:

Public Input No. 64-NFPA 1917-2016 [Section No. 6.4]

First Revision No. 27-NFPA 1917-2016 [Section No. 6.5.2.1]

6.4.2.1

The body shall be sealed and vented so that the interior carbon monoxide level does not exceed ~~13~~ 10 ppm of carbon monoxide (CO).

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:48:44 EST 2016

Committee Statement

Committee Statement: This section says the body has to sealed and vented to not allow carbon monoxide levels above 13 ppm. But the AMD 007 test is testing for 10 ppm, so we need to decide if we want 13 ppm or 10 ppm. I could not find another reference in other federal standards that were below 25 to 50 ppm for Immediately Dangerous to Life or Health Concentrations (IDLH)

Response Message:

Public Input No. 13-NFPA 1917-2016 [Section No. 6.5.2.1]

First Revision No. 74-NFPA 1917-2016 [Section No. 6.10.2]

6.9.2*

Each means of egress opening shall be a minimum of 30 in. (762 mm) by 46 in. (1168 mm).

Supplemental Information

File Name	Description
FR-74_A.6.9.2.docx	

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Dec 06 09:49:27 EST 2016

Committee Statement

Committee Statement: This addition is proposed in conjunction with Public Input No. 39-NFPA 1917-2016, Section No. 6.10.2. While the committee did not act favorably on PI 39, they did want to add this annex material. Please see the attached document for the new annex text.

Response Message:

Public Input No. 40-NFPA 1917-2016 [New Section after A.6.9.8]

A.6.9.2
Purchasers should consider specifying larger minimum egress openings if allowed by their cabinet configuration requirements.

First Revision No. 28-NFPA 1917-2016 [Section No. 6.10.4]

6.9.4

The egress and cot loading doors shall have a secondary emergency release mechanism.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 15:52:32 EST 2016

Committee Statement

Committee Statement: The purpose of the secondary emergency release mechanism is to ensure a safe means of egress in the event that a problem with the release handle or linkage prevents normal release of the rotary latches. This requirement is justified for the cot loading doors because a failure there would significantly complicate patient removal. The requirement is not justified for the other egress door (typically a side passage door) because latch or linkage failure on that door requires nothing more than exiting through the patient loading doors.

Response Message:

Public Input No. 41-NFPA 1917-2016 [Section No. 6.10.4]

First Revision No. 63-NFPA 1917-2016 [Section No. 6.16.7]

6.15.7

The securing mechanism of those interior storage ~~cabinets and drawers~~ compartments , if provided, shall be capable of being accessed under the same reach condition.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:28:52 EST 2016

Committee Statement

Committee Statement: The committee has made this change for document consistency and for further clarification.
Response Message:

First Revision No. 64-NFPA 1917-2016 [Section No. 6.16.8]

6.15.8

Each ~~patient~~ interior storage compartment ~~cabinet~~ shall be permanently labeled with its maximum load capacity.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:30:24 EST 2016

Committee Statement

Committee Statement: These changes were made for document consistency and for further clarification.
Response Message:

First Revision No. 65-NFPA 1917-2016 [Section No. 6.16.9]

6.15.9

Each ~~enclosed~~ storage compartment shall be ~~capable of containing the contents when a 10 g force is applied in the longitudinal, lateral, or vertical axis of the vehicle~~ tested in accordance with the requirements described in SAE J3058, *Ambulance Interior Storage Compartment Integrity* .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:31:46 EST 2016

Committee Statement

Committee Statement: The committee has made these changes for document consistency and to ensure the proper test is met.
Response Message:

First Revision No. 29-NFPA 1917-2016 [Section No. 6.17.1]

6.16.1

~~The~~ Exposed edges on the interior of the ~~body shall be free of all sharp projections and sharp corners~~ patient compartment shall have a radius of curvature of not less than $^{3}/_{32}$ in. (2.5 mm) .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:01:10 EST 2016

Committee Statement

Committee Statement: Justification:

The original statement does not provide any way to measure the corner. The 2.5mm recommendation is a current requirement of CEN EN1789:2007 and is accepted as a reasonable and normal production goal.

Response Message:

Public Input No. 27-NFPA 1917-2016 [Section No. 6.17.1]

First Revision No. 30-NFPA 1917-2016 [New Section after 6.18.3]

6.19 Fire Extinguishers.

One 5 lb ABC fire extinguisher shall be mounted in the vehicle using a SAE J3043, *Ambulance Equipment Mounts* , compliant quick-release bracket and be accessable within the patient compartment.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:02:55 EST 2016

Committee Statement

Committee Statement: The committee agrees with what the submitter is attempting to accomplish and believes this text does just that.
Response Message:

Public Input No. 26-NFPA 1917-2016 [Section No. 6.19]

First Revision No. 67-NFPA 1917-2016 [Section No. 6.21.1]

6.21.1* Seat Integrity.

Any seat mounted in a patient compartment shall meet the performance requirements specified in SAE J3026, *Ambulance Patient Compartment Seating Integrity and Occupant Restraint*.

Supplemental Information

File Name	Description
FR-67_A.6.21.1.docx	

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:38:57 EST 2016

Committee Statement

Committee Statement: The committee has added this new annex material in order to provide the end user with further information and further clarification. See attached document.
Response Message:

FR-67, new annex

A.6.21.1
When designing a new ambulance patient compartment interior, one of the primary design goals should be to provide a seating system that allows the worker to remain safely seated and restrained while still allowing that worker to provide efficient and effective patient care. To provide safe, efficient, and effective patient care, a worker needs to be able to reach his or her patient, equipment, and supplies while still seated and restrained. Recognizing the positioning of equipment and supplies closer to the worker will increase the potential for head strike hazards, manufacturers are encouraged to collect occupant excursion data concurrent with the dynamic testing of all seating systems using the methodology described in SAE J3059, *Ambulance Patient Compartment Seated Occupant Excursion Zone Evaluation*. The resulting data can be used to develop expected head excursion zones for each seating system when a vehicle is impacted in the front, side, or rear. In addition, the Department of Homeland Security's Ambulance Patient Compartment Human Factors Design Guidebook should be used, which can provide assistance in assessing tradeoffs with reachability to patients, equipment, and supplies while providing a safe space for excursion of EMSPs.

First Revision No. 66-NFPA 1917-2016 [Section No. 6.22.5]

6.22.5

The floor substructure shall be tested in accordance ~~with AMD 004, *Litter Retention System Test*~~ with SAE J3102, *Ambulance Patient Compartment Structural Integrity Test to Support SAE J3027 Compliant Litter Systems.*

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:34:22 EST 2016

Committee Statement

Committee Statement: The committee has made these changes to ensure a higher level of safety with regards to what is being tested.
Response Message:

First Revision No. 31-NFPA 1917-2016 [Section No. 6.25.1]

6.25.1*

A retroreflective stripe, a combination of retroreflective stripes, or Battenburg markings shall be affixed to the ambulance in the following proportions:

(1) 25 percent of the length of each of the cab side surfaces when approached from each side

(2) 75 percent of the length of each patient compartment side surfaces when approached from each side

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:10:18 EST 2016

Committee Statement

Committee Statement: This change was editorial in nature and to clarify the requirement.
Response Message:

First Revision No. 32-NFPA 1917-2016 [Section No. 6.28.1]

6.28.1

The ambulance shall have a ~~piped~~ medical gas system capable of supplying a minimum of 793 gal (3000 L) of medical gas.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:14:13 EST 2016

Committee Statement

Committee Statement: Justification:

Requiring an oxygen system to be piped throughout the ambulance is design restrictive. There are systems available in the market place that provide the content and flow rate of a large 'M' or 'H' size cylinder while not incurring the weight of these cylinders. This weigh reduction reduces vehicle curb weight which contributes to lower vehicle life cycle costing as well as reduces the accumulative muscle strain for the EMS personnel charged with changing the larger cylinders.

Response Message:

Public Input No. 28-NFPA 1917-2016 [Section No. 6.28.1]

First Revision No. 33-NFPA 1917-2016 [Section No. 6.28.5]

6.28.5

The medical gas ~~outlet~~ port shall be accessible from the designated primary patient care seating position.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:16:34 EST 2016

Committee Statement

Committee Statement: Justification:

The tern outlet is design restrictive, there are oxygen delivery systems on the market that provide the required flow rates and volumes for patient treatment that do not require a hospital style wall outlet with contemporary style face plates.

Response Message:

Public Input No. 29-NFPA 1917-2016 [Section No. 6.28.5]

First Revision No. 34-NFPA 1917-2016 [Section No. 6.28.6]

6.28.6

The purchaser shall specify the quantity and location of medical gas ~~outlets~~ ports .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:16:58 EST 2016

Committee Statement

Committee Statement: Justification:

The term outlet is design restrictive, there are oxygen delivery systems on the market that provide the required flow rates and volumes for patient treatment that do not require a hospital style wall outlet with contemporary style face plates.

Response Message:

Public Input No. 30-NFPA 1917-2016 [Section No. 6.28.6]

First Revision No. 35-NFPA 1917-2016 [Section No. 6.28.7]

6.28.7

Medical gas system shall include the following:

(1) A pressure regulator

(2) Low pressure, electrically conductive hose and fittings approved for medical gas

(3) Medical gas piping that is concealed and not exposed to the elements, securely supported to prevent damage, and ~~be~~ readily accessible for inspection and replacement

(4) Medical gas that is piped to a ~~self-sealing~~ medical gas ~~outlet~~ port with a minimum flow rate of 26.4 gpm (100 L/min) at the outlet

(5) Outlet(s) that is marked and identified and does not interfere with the suction outlet

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:17:35 EST 2016

Committee Statement

Committee Statement: Justification:

The tern outlet is design restrictive, there are oxygen delivery systems on the market that provide the required flow rates and volumes for patient treatment that do not require a hospital style wall outlet with contemporary style face plates.

Response Message:

Public Input No. 31-NFPA 1917-2016 [Section No. 6.28.7]

First Revision No. 36-NFPA 1917-2016 [Section No. 6.28.9.3]

6.28.9.3

With the regulator set at 50 psi ± 2 psi (345 kPa ± 14 kPa), a 26.4 gpm (100 L/min) minimum flow rate shall be available at all medical gas ~~outlets~~ ports .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:22:04 EST 2016

Committee Statement

Committee Statement: Justification:

The term outlet is design restrictive, there are oxygen delivery systems on the market that provide the required flow rates and volumes for patient treatment that do not require a hospital style wall outlet with contemporary style face plates.

Response Message:

Public Input No. 32-NFPA 1917-2016 [Section No. 6.28.9.3]

First Revision No. 37-NFPA 1917-2016 [Section No. 6.28.10.1]

6.28.10.1

Storage for ~~the~~ an “M” or “H” size main medical gas cylinder shall be accessible for replacement from an outside position.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:24:10 EST 2016

Committee Statement

Committee Statement: Justification:

Requiring any size oxygen cylinder access to be from an outside position is design restrictive. The original language intent was to provide access for lifting heavy cylinders. Ambulance are beginning to use cylinders that weigh less than 8 pounds empty. They do not require special compartments or the cost associated with building vehicles with special compartments.

Response Message:

Public Input No. 33-NFPA 1917-2016 [Section No. 6.28.10.1]

Public Input No. 67-NFPA 1917-2016 [Section No. 6.28.10.1]

First Revision No. 38-NFPA 1917-2016 [Section No. 6.28.10.2]

6.28.10.2

~~The~~ Any exterior medical gas compartment, if so equipped, shall be provided with at least 9 in.^{2} (580 mm^2) of open vent to dissipate or vent leaking medical gas to the outside of the ambulance.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:26:02 EST 2016

Committee Statement

Committee Statement: Justification:

Requiring a separate medical gas compartment for all sizes of oxygen vessels is design restrictive. Section 6.28.10.1 requires exterior access for 'M' or 'H' size cylinders so those compartments would still be required to contain a vent.

Response Message:

Public Input No. 34-NFPA 1917-2016 [Section No. 6.28.10.2]

First Revision No. 39-NFPA 1917-2016 [Section No. 6.28.11]

6.28.11 Medical Gas Tank Retention.

6.28.11.1

~~Medical~~ A medical gas cylinder(s) shall be mounted with a restraining device(s) that meets the requirements of SAE J3043, *Ambulance Equipment Mounts*, in the lateral and longitudinal directions.

6.28.11.2

Compliance of the medical gas tank retention device, in the lateral and longitudinal directions, shall be validated by testing a sample retention device using a substantially similar ambulance or body structure in accordance with the testing requirements of SAE J3043, *Ambulance Equipment Mounts*.

6.28.11.3

~~The medical gas tank holder components shall not fail or separate along attachment points.~~ A medical gas cylinder(s) shall be mounted with a restraining device(s) that meets the requirements of AMD 003, *Oxygen Tank Retention System Static Test* , in the vertical direction.

~~**6.28.11.4**~~

~~The medical gas tank holder or any component thereof shall not separate from the vehicle at any attachment point.~~

~~**6.28.11.5**~~

~~The part of the vehicle to which the medical gas tank holder is attached shall not fail or separate at any attachment point.~~

6.28.11.4

~~The simulated cylinder shall not disengage from the medical gas tank holder.~~ Compliance with the medical gas retention device in the vertical direction shall be validated by testing a sample retention device using a substantially similar ambulance or body structure in accordance with the testing requirements of AMD 003, *Oxygen Tank Retention System Static Test* .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:29:45 EST 2016

Committee Statement

Committee Statement: The committee agrees with what the submitter is attempting to accomplish, however they believe this text better serves the end user.

Response Message:

Public Input No. 68-NFPA 1917-2016 [Sections 6.28.11.3, 6.28.11.4, 6.28.11.5]

First Revision No. 40-NFPA 1917-2016 [Section No. 6.28.12.1.2]

6.28.12.1.2

Each ~~outlet~~ port shall be capable of delivering at least 26.4 gpm (100 L/min) of medical gas.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:39:44 EST 2016

Committee Statement

Committee Statement: Justification:

The term outlet is design restrictive, there are oxygen delivery systems on the market that provide the required flow rates and volumes for patient treatment that do not require a hospital style wall outlet with contemporary style face plates.

Response Message:

Public Input No. 35-NFPA 1917-2016 [Section No. 6.28.12.1.2]

First Revision No. 41-NFPA 1917-2016 [Section No. 6.29.2]

6.29.2

The vacuum control, vacuum indicator, and collection bottle or bag shall be located so that it can be operated from ~~the primary patient care position~~ a position near the head of the patient .

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sat Dec 03 16:43:07 EST 2016

Committee Statement

Committee Statement: Justification:

The primary patient care position is frequently the curbside seating position. The most frequent use of suction is to provide airway care, this clinical procedure is normally performed from the head of the patient. This language change encourages the EMSP to remain seated and restrained.

Response Message:

Public Input No. 36-NFPA 1917-2016 [Section No. 6.29.2]

First Revision No. 42-NFPA 1917-2016 [Section No. 7.2.2.2]

7.2.2.2

The overall covering of conductors or jacketed cables shall be moisture-resistant loom or braid that has a minimum continuous rating of 194°F (90°C) except where good engineering practice dictates special consideration for loom installations exposed to higher temperatures. [~~**1901:** 13.2.2.2~~]

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:14:01 EST 2016

Committee Statement

Committee Statement: The committee has made these changes for editorial purposes and to ensure that jacketed cables meet the same level of protection against heat as conductors do.
Response Message:

Public Input No. 71-NFPA 1917-2016 [Sections 7.2.2.2, 7.2.2.3]

First Revision No. 43-NFPA 1917-2016 [Section No. 7.2.2.9]

7.2.2.9* Wiring Identification.

Wiring shall be uniquely identified at least every 4 in. (101 mm) by color coding or permanent marking with a circuit function code and the wire referenced on a wiring diagram . [~~See~~ as listed in 4.17.2.3(6) .]

~~**7.2.2.9.1**~~

~~Wiring shall be uniquely identified at least every 4 in. (101 mm) by color coding or permanent marking with a circuit function code [See 4.17.2.3(6) .].~~

~~**7.2.2.9.2**~~

~~The identification shall reference a wiring diagram. [See 4.16.2.3(6) .]~~

~~**7.2.2.9.3**~~

~~The wiring diagram shall have an alphabetical list of all identifiers and their location on the diagram.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:17:42 EST 2016

Committee Statement

Committee Statement: The committee believes that there is a need for the diagram to ensure safety and has modified the text to reflect that need.
Response Message:

Public Input No. 72-NFPA 1917-2016 [Section No. 7.2.2.9]

First Revision No. 44-NFPA 1917-2016 [Section No. 8.2.1.1]

~~**8.2.1.1**~~

~~Where the requirements of this chapter differ from those in *NFPA 70* , the requirements in this chapter shall apply.~~ [~~**1901:** 22.2.3.2~~]

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:31:01 EST 2016

Committee Statement

Committee Statement: The committee has chosen to delete this section as they believe it is already addressed within this document.
Response Message:

Public Input No. 73-NFPA 1917-2016 [Section No. 8.2.1]

First Revision No. 45-NFPA 1917-2016 [Section No. 8.2.2.2]

8.2.2.2

The shorepower inlet shall be ~~a~~ permanently mounted with a male recessed-type receptacle with cover, having a minimum rating of 15 amperes and conforming to the National Electrical Manufacturers Association (NEMA) configuration appropriate for the voltage rating.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:35:03 EST 2016

Committee Statement

Committee Statement: Delete the "a" to correct a typo.
Response Message:

Public Input No. 75-NFPA 1917-2016 [Section No. 8.2.2.2]

First Revision No. 46-NFPA 1917-2016 [Section No. 8.2.2.3]

8.2.2.3

The shorepower inlet shall be wired directly to the system or device to be powered or wired to a transfer switch ~~where~~ as required ~~by~~ in Section 8.8.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:37:01 EST 2016

Committee Statement

Committee Statement: The committee has added new text, new section 8.8, in order to provide further clarification to this requirement.
Response Message:

Public Input No. 16-NFPA 1917-2016 [Section No. 8.2.2.3]

Public Input No. 76-NFPA 1917-2016 [Section No. 8.2.2.3]

First Revision No. 47-NFPA 1917-2016 [Section No. 8.2.2.4]

~~8.2.2.4~~

~~Where an external power source is connected to the shorepower receptacle, it shall energize the vehicle's internal line voltage circuit.~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:39:43 EST 2016

Committee Statement

Committee Statement: This section is unnecessary. The only purpose of the shorepower is to energize the vehicle's internal line voltage circuit. There is no need to specify that.
Response Message:

Public Input No. 77-NFPA 1917-2016 [Section No. 8.2.2.4]

First Revision No. 83-NFPA 1917-2017 [Section No. 8.2.3]

~~**8.2.3** Receptacle.~~

~~**8.2.3.1**~~

~~The shoreline receptacle shall energize the vehicle's internal line voltage circuit from an external power source such as utility power.~~

~~**8.2.3.2**~~

~~A proper-mating, weatherproof, minimum 15-ampere connector body conforming to the NEMA configuration shall also be furnished without cable and tagged specifying the size, the type of wire necessary, and the polarity of the future hookup.~~

Submitter Information Verification

Submitter Full Name: Sonia Barbosa
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 24 12:00:28 EST 2017

Committee Statement

Committee Statement: Section 8.2.3.1 is unnecessary. The only purpose of the shorepower is to energize the vehicle's internal line voltage circuit. There is no need to specify that. Section 8.2.3.2 is a duplicate of Section 8.2.2.6.

Response Message:

Public Input No. 78-NFPA 1917-2016 [Section No. 8.2.3.1]

Public Input No. 79-NFPA 1917-2016 [Section No. 8.2.3.2]

First Revision No. 51-NFPA 1917-2016 [Section No. 8.2.4]

8.2.3 Stability of Frequency and Voltage .

8.2.3.1

Any fixed line voltage power source producing alternating current (ac) shall produce electric power at 60 Hz ± 3 Hz when producing power at all levels between no load and full-rated power.

8.2.3.2

Any fixed line voltage power source shall produce electric power at the rated voltage ±10 percent when producing power at all levels between no load and full-rated power.

~~8.2.4.3~~

~~Any fixed line voltage power source shall produce a maximum voltage output of no more than 110 percent of the power source's full-rated voltage.~~

8.2.3.3

Higher voltage shall be permitted only when used to operate fixed wired, permanently mounted equipment on the ambulance.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:51:02 EST 2016

Committee Statement

Committee Statement: The committee has made these changes in order to reduce confusion and increase safety.
Response Message:

Public Input No. 80-NFPA 1917-2016 [Section No. 8.2.4]

First Revision No. 52-NFPA 1917-2016 [Section No. 8.2.5]

~~**8.2.4** Conformance with ***National Electrical Code*** .~~

~~**8.2.4.1**~~

~~All components, equipment, and installation procedures shall conform to *NFPA 70* except where superseded by the requirements of this chapter. [**1901:** 22.2.3.1]~~

~~**8.2.4.2**~~

~~Where the requirements of this chapter differ from those in *NFPA 70* , the requirements in this chapter shall apply. [**1901:** 22.2.3.2]~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:52:44 EST 2016

Committee Statement

Committee Statement: The entire Section 8.2.5.1 is a duplicate of Section 8.2.1.
Response Message:

Public Input No. 74-NFPA 1917-2016 [Section No. 8.2.5]

First Revision No. 69-NFPA 1917-2016 [Section No. 8.2.7]

8.2.5 Line Voltage Electrical System Testing.

Electrical system testing shall be performed according to AMD ~~009~~ 027 , *Line Voltage Electrical Systems Test*.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:44:36 EST 2016

Committee Statement

Committee Statement: This change was made to to reflect an update in referenced documents and as a result of a TIA.
Response Message:

First Revision No. 53-NFPA 1917-2016 [Section No. 8.3.2.2 [Excluding any Sub-Sections]]

Grounding of electrical equipment shall be done in one of the following ways:

(1) Connection to a metal raceway, conduit, or electrical metallic tubing

(2) A connection between one or more equipment-grounding conductors and a metal box by means of a listed grounding device or a grounding screw that is used for no other purpose ~~or a listed grounding device~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:54:43 EST 2016

Committee Statement

Committee Statement: re-structure the sentence to say the same thing more clearly.
Response Message:

Public Input No. 82-NFPA 1917-2016 [Section No. 8.3.2.2 [Excluding any Sub-Sections]]

First Revision No. 54-NFPA 1917-2016 [Section No. 8.6.5.1]

8.6.5.1

The patient compartment shall be furnished with a minimum of three line voltage duplex receptacles conforming to a minimum of a NEMA 5-15.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:56:41 EST 2016

Committee Statement

Committee Statement: The committee has added this text in order to provide further clarification to the end user.
Response Message:

Public Input No. 84-NFPA 1917-2016 [Section No. 8.6.5.1]

First Revision No. 55-NFPA 1917-2016 [Section No. 8.6.5.9.2]

8.6.5.9.2

If the receptacle is ~~dc or~~ other than single phase, that information shall also be marked on the label.
[~~**1901:** 22.11.5.5.2~~]

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:58:24 EST 2016

Committee Statement

Committee Statement: The committee has made these changes for editorial purposes and in order to provide further clarification.
Response Message:

Public Input No. 85-NFPA 1917-2016 [Section No. 8.6.5.9.2]

First Revision No. 56-NFPA 1917-2016 [Section No. 8.6.5.11]

~~**8.6.5.11**~~

~~Receptacles used for dc voltages shall be rated for dc service. [**1901:** 22.11.5.7]~~

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:00:03 EST 2016

Committee Statement

Committee Statement: Ambulances don't use line voltage DC receptacles.
Response Message:

Public Input No. 86-NFPA 1917-2016 [Section No. 8.6.5.11]

First Revision No. 48-NFPA 1917-2016 [New Section after 8.7.9.6]

8.8 Transfer Switch Applications.

8.8.1

A transfer switch shall be required to isoslate one power source from another where a circuit(s) is intended to be supplied from more than one power source.

8.8.2

Transfer equipment, including transfer switches, shall operate such that all ungrounded connectors of one power source are disconnected before any ungrounded conductors of the second power source are connected.

8.8.3

The neutral connector shall be switched through the transfer switch.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 17:40:55 EST 2016

Committee Statement

Committee Statement: The committee has added this new text in order to ensure a higher level of safety.
Response Message:

Public Input No. 12-NFPA 1917-2016 [Global Input]

First Revision No. 57-NFPA 1917-2016 [Section No. A.6.1.3]

A.6.1.3

While it is important that an EMT should be able to maneuver around the patient on the cot, the physical restraints of the vehicle when combined with other desirable features and tradeoffs might not allow for optimum clearance of 12 in. (300 mm) on all sides in all locations. Purchasers for whom complete access to the cot is critical to their patient care tactics might wish to consider specifying a minimum of 12 in. (300 mm) of clear aisle walkway between the edge of the primary patient cot and the base of the nearest vertical feature measured along the floor. In a similar fashion, if allowed by their desired EMSP seating configuration, purchasers might wish to specify that a minimum of 10 in. (254 mm) shall be provided from the nearest edge of the cot mattress to the loading door(s).

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:06:16 EST 2016

Committee Statement

Committee Statement: Refer to linked public input.
Response Message:

Public Input No. 66-NFPA 1917-2016 [Section No. A.6.1.3]

First Revision No. 75-NFPA 1917-2016 [Section No. B.1.2.2]

B.1.2.2 SAE Publications.

Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096, www.sae.org.

SAE J551/1, *Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats (up to 15 m), and Machines (16.6 Hz to 18 GHz)*, 2010.

SAE J826, *Devices for Use in Defining and Measuring Vehicle Safety Accommodation*, 2008.

~~SAE J1349, *Engine Power Test Code — Spark Ignition and Compression Ignition — Net Power Rating* , 2008.~~

SAE J3059, *Ambulance Patient Compartment Seated Occupant Excursion Zone Evaluation* , 2017.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Mon Dec 12 16:46:35 EST 2016

Committee Statement

Committee Statement: This is being removed as it is not referenced in Annex A and the reference to J3059 is being added as it is referenced in new Annex A material
Response Message:

First Revision No. 68-NFPA 1917-2016 [Section No. B.1.2.3]

B.1.2.3 U.S. Government Publications.

U.S. Government Printing Office, Washington, DC 20402.

MIL-STD-1472, *Department of Defense Design Criteria Standard — Human Engineering*.

Title 29, Code of Federal Regulations, Part 1910.1030, “Bloodborne Pathogens," 2010.

Title 49, Code of Federal Regulations, Part 571, “ Federal Motor Vehicle Safety Standards” (FMVSS).

Department of Homeland Security’s *Ambulance Patient Compartment Human Factors Design Guidebook,* 2015.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Sun Dec 04 18:41:40 EST 2016

Committee Statement

Committee Statement: The committee has added this new reference in order to provide further information for the end user and it has been referenced in annex A of this document.
Response Message:

First Revision No. 76-NFPA 1917-2016 [Section No. B.3]

B.3 References for Extracts in Informational Sections.

NFPA 70®, *National Electrical Code®*, ~~2014~~ 2017 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus*, 2016 edition.

Submitter Information Verification

Submitter Full Name: Ken Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Mon Dec 12 16:57:31 EST 2016

Committee Statement

Committee Statement: This change was made to update references and edition dates.
Response Message: