



Public Input No. 457-NFPA 1900-2025 [Global Input]

This is a recommendation from the NFPA 1900 Pump Task Group.

Standardize on decimals values and do not use fractions.

Statement of Problem and Substantiation for Public Input

Sections contain both fraction and decimal values. Sometimes the fraction and decimals are in the same sub-section. Standardizing on decimal values will make sections more consistent.

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 16:56:17 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee has chosen to not undertake this as it would create further confusion throughout the document and the effort to do so would be significant.

**Public Input No. 74-NFPA 1900-2025 [Section No. 1.1.1]****1.1.1**

This standard defines the minimum requirements for the design, performance, acceptance criteria, and testing of aircraft rescue and firefighting apparatus, new automotive fire apparatus and trailers, wildland fire apparatus, and ~~automotive- new~~ and remounted automotive ambulances.

Statement of Problem and Substantiation for Public Input

This is a wording correction. Both new and remounted ambulances are automotive ambulances. The correct language is used in 1.2(4). THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri Mar 28 14:13:49 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-162-NFPA 1900-2026

Statement: This is a wording correction. Both new and remounted ambulances are automotive ambulances. The correct language is used in 1.2(4).

**Public Input No. 75-NFPA 1900-2025 [Section No. 1.3]****1.3* Application.**

This standard can be applied as follows:

- (1) Chapters 1 through 3, 4 through 6, and Annexes A, B, C, G, and I constitute NFPA 414.
- (2) Chapters 1 through 3, 7 through 14, 16 through 25, and Annexes A, D, E, F, G, and I constitute NFPA 1901.
- (3) Chapters 1 through 3, 7 through 12, 15 through 19, 24, 26, 27, and Annexes A, F, G, , and I constitute NFPA 1906.
- (4) Chapters 1 through 3, 28 through 34, and Annexes A, G, H, and I constitute NFPA 1917.

Statement of Problem and Substantiation for Public Input

Annex G covers the history of all four documents that make up NFPA 1900.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin Task Group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Tue Apr 29 13:09:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-405-NFPA 1900-2026](#)

Statement: These changes are being made in order to update the annexes and to provide information to the AHJ as to how to refer to the consolidated standards now that the singular ones are no longer going to be revised and issued.

**Public Input No. 76-NFPA 1900-2025 [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®*, 2023 - 2026 edition.

NFPA 460, *Standard for Aircraft Rescue and Firefighting Services at Airports*, 2024 - 2028 edition.

NFPA 950, *Standard for Data Development and Exchange for the Fire Service*, 2020 - 2028 edition.

NFPA 1910, *Standard for the Inspection, Maintenance, Refurbishment, Testing, and Retirement of In-Service Emergency Vehicles and Marine Firefighting Vessels*, 2024 - 2028 edition.

NFPA 1931 NFPA 1930 , *Standard for Manufacturer's Design of Fire Department Ground Ladders*, 2020 -edition.

NFPA 1932, *Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders*, 2020 -edition.

NFPA 1961, *Standard on Fire Hose*, 2020 -edition.

NFPA 1963 *on Fire and Emergency Service Use of Thermal Imagers, Two-Way Portable RF Voice Communication Devices Ground Ladders, Rescue Tools, Fire Hose, and Fire Hose Appliances*, 2025 edition.

NFPA 1960 , *Standard for Fire Hose Connections*, 2019 -edition. NFPA 1964, *Standard for Spray Nozzles*, 2018 edition. NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2019 *Manufacturer's Design of Fire Department Ground Ladders, Fire Hose, and Powered Rescue Tools*, 2024 edition.

NFPA 1989, *Standard on Breathing Air Quality for Emergency Services Respiratory Protection*, 2019 - 2028 edition.

NFPA 2500, *Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*, 2022 - 2027 edition.

Statement of Problem and Substantiation for Public Input

Update NFPA document numbers (including consolidations), titles, and next edition dates. The Manual of Style 6.1.3.1 requires all references to NFPA documents be updated to the edition that will be current at the time of publication. NFPA 1981 (now NFPA 1970) is no longer referenced in the main body, just the annex.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 79-NFPA 1900-2025 [Section No. 3.3.126]	
Public Input No. 81-NFPA 1900-2025 [Section No. 3.3.202]	
Public Input No. 82-NFPA 1900-2025 [Section No. 21.3.1.4]	
Public Input No. 83-NFPA 1900-2025 [Section No. 21.9.2 [Excluding any Sub-Sections]]	
Public Input No. 84-NFPA 1900-2025 [Section No. 32.3.1.6]	
Public Input No. 87-NFPA 1900-2025 [Section No. 8.2.1]	
Public Input No. 89-NFPA 1900-2025 [Section No. 12.10]	
Public Input No. 90-NFPA 1900-2025 [Sections 3.3.267, 3.3.268, 3.3.269, 3.3.270]	
Public Input No. 91-NFPA 1900-2025 [Section No. 4.21.5.1]	
Public Input No. 92-NFPA 1900-2025 [Section No. 8.3.3]	
Public Input No. 94-NFPA 1900-2025 [Section No. 3.3.179]	
Public Input No. 95-NFPA 1900-2025 [Section No. 4.21.4.2]	
Public Input No. 96-NFPA 1900-2025 [Section No. 4.21.5.2]	
Public Input No. 97-NFPA 1900-2025 [Section No. 3.3.61]	
Public Input No. 87-NFPA 1900-2025 [Section No. 8.2.1]	
Public Input No. 91-NFPA 1900-2025 [Section No. 4.21.5.1]	
Public Input No. 92-NFPA 1900-2025 [Section No. 8.3.3]	
Public Input No. 94-NFPA 1900-2025 [Section No. 3.3.179]	
Public Input No. 95-NFPA 1900-2025 [Section No. 4.21.4.2]	
Public Input No. 96-NFPA 1900-2025 [Section No. 4.21.5.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Tue Apr 29 16:16:10 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: These updates will be handled through the editorial process as per the NFPA extract policy.

**Public Input No. 104-NFPA 1900-2025 [Section No. 2.3.1]****2.3.1 ANSI Publications.**

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

ANSI A14.2, *Ladders — Portable Metal — Safety Requirements*, 2017.

ANSI A14.5, *Ladders — Portable Reinforced Plastic — Safety Requirements*, 2017.

ANSI S1.4, *Specification for Electroacoustics - Sound Level Meters*, 2014, 2024.

ANSI/NEMA Z535.4, *Product Safety Signs and Labels*, 2017, 2023.

Statement of Problem and Substantiation for Public Input

Update document edition dates (and in one case title) for referenced documents per NFPA Manual of Style 6.1.3.2.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 105-NFPA 1900-2025 [Section No. 6.3.32.1]	
Public Input No. 106-NFPA 1900-2025 [Section No. 6.3.39.1 [Excluding any Sub-Sections]]	
Public Input No. 105-NFPA 1900-2025 [Section No. 6.3.32.1]	
Public Input No. 106-NFPA 1900-2025 [Section No. 6.3.39.1 [Excluding any Sub-Sections]]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 01 15:12:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-163-NFPA 1900-2026](#)

Statement: Update document edition dates (and in one case title) for referenced documents per NFPA Manual of Style 6.1.3.2.

**Public Input No. 368-NFPA 1900-2025 [Section No. 2.3.2]****2.3.2 ASME Publications.**

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ASME B40.100, *Pressure Gauges and Gauge Attachments*, 2013 2022.

ASME *Boiler and Pressure Vessel Code*, 2021. ~~*Boiler and Pressure Vessel Code*~~, Section VIII, Division 1, 2021 2025.

Statement of Problem and Substantiation for Public Input

Update document edition dates and add ASME to the title of the Boiler and Pressure Vessel Code, consistent with ASME titling and use in this document.

Remove redundant line. The ASME Boiler and Pressure Code is a library of documents on boilers, pressure vessels, nuclear reactors, and other subjects. Only the one section is relevant to this NFPA document.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Tue Jul 15 10:14:34 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-164-NFPA 1900-2026

Statement: Update document edition dates and add ASME to the title of the Boiler and Pressure Vessel Code, consistent with ASME titling and use in this document.

Remove redundant line. The ASME Boiler and Pressure Code is a library of documents on boilers, pressure vessels, nuclear reactors, and other subjects. Only the one section is relevant to this NFPA document.

**Public Input No. 108-NFPA 1900-2025 [Section No. 2.3.3]****2.3.3 ASNT Publications.**

American Society for Nondestructive Testing, Inc., P.O. Box 28518, 1711 Arlingate Lane, Columbus, OH 43228-0518.
www.asnt.org.

ANSI/ASNT CP-189, *Standard for Qualification and Certification of Nondestructive Testing Personnel*, 2020 2024 .

Statement of Problem and Substantiation for Public Input

Update document edition date.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 01 16:50:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-165-NFPA 1900-2026](#)

Statement: Update document edition date.

**Public Input No. 109-NFPA 1900-2025 [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, www.astm.org.

ASTM B647, *Standard Test Method for Indentation Hardness of Aluminum Alloys by Means of a Webster Hardness Gage*, 2016 2023 .

ASTM B648, *Standard Test Method for Indentation Hardness of Aluminum Alloys by Means of a Barcol Impressor*, 2015 2023 .

ASTM D4956, *Standard Specification for Retroreflective Sheeting for Traffic Control*, 2019.

ASTM E6, *Standard Terminology Relating to Methods of Mechanical Testing*, 2015 2023 .

ASTM E10, *Standard Test Method for Brinell Hardness of Metallic Materials*, 2018 2023 .

ASTM E18, *Standard Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials*, 2020 2024 .

ASTM E114, *Standard Practice for Ultrasonic Pulse-Echo Straight-Beam Examination by the Contact Method*, 2020.

ASTM E165/E165M, *Standard Test Method for Liquid Penetrant Examinations*, 2018 2023 .

ASTM E384, *Standard Test Method for Microindentation Hardness of Materials*, 2017 2022 .

ASTM E569/E569M, *Standard Practice for Acoustic Emission Monitoring of Structures During Controlled Stimulation*, 2020.

ASTM E650, *Standard Guide for Mounting Piezoelectric Acoustic Emission Sensors*, 2017 2024 .

ASTM E661, *Standard Test Method for Performance of Wood and Wood-Based Floor and Roof Sheathing Under Concentrated Static and Impact Loads*, 2003 (2015) 2022 .

ASTM E709, *Standard Guide for Magnetic Particle Testing*, 2021.

ASTM E797, *Standard Practice for Measuring Thickness by Manual Ultrasonic Pulse-Echo Contact Method*, 2021.

ASTM E1004, *Standard Practice for Determining Electrical Conductivity Using the Electromagnetic (Eddy-Current) Method*, 2017 2024 .

Statement of Problem and Substantiation for Public Input

Update document edition dates.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Thu May 01 16:54:43 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-166-NFPA 1900-2026](#)

Statement: Update document edition dates.

**Public Input No. 112-NFPA 1900-2025 [Section No. 2.3.7]****2.3.7 CSA Publications.**

CSA Group, 178 Rexdale Blvd., Toronto, ON M9W 1R3, Canada, www.csagroup.org.

CSA W47.1, *Certification of Companies for Fusion Welding of Steel*, 2019 2024 .

CSA W47.2, *Certification of Companies for Fusion Welding of Aluminum*, 2015 2020 .

Statement of Problem and Substantiation for Public Input

Update edition dates.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin Task Group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 02 17:52:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-167-NFPA 1900-2026](#)

Statement: Update edition dates.

**Public Input No. 113-NFPA 1900-2025 [Section No. 2.3.8]****2.3.8** FAA Publications.

Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 2059, www.faa.gov/airports/resources/advisory_circulars/.

FAA Advisory Circular No. 150/5210-19A 19B , *Driver's Enhanced Vision System (DEVS)*, 2024 .

Statement of Problem and Substantiation for Public Input

150/5210-19A was canceled and replaced by 150-5210-19B in 2024.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 114-NFPA 1900-2025 [Sections 4.13.4.7, 4.13.4.8]	
Public Input No. 114-NFPA 1900-2025 [Sections 4.13.4.7, 4.13.4.8]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Sat May 03 11:04:35 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-168-NFPA 1900-2026](#)

Statement: At the request of the FAA, they have asked that we remove the number/letter identifier to the FAA AC's as they will change over time while the titles will not.



Public Input No. 119-NFPA 1900-2025 [New Section after 2.3.9]

2.3.10 IEC Publications

International Electrotechnical commission, 3 rue de Varenbe, PO Box 131, CH-1211 Geneva 20 Switzerland, webstore.iec.ch.

IEC 62477-1, *Safety Requirements for Power Electronic Converter Systems and Equipment*, 2012.

Statement of Problem and Substantiation for Public Input

Move IEC 62477-1 to IEC. It is not available from ISO.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

Related Input

Relationship

[Public Input No. 118-NFPA 1900-2025 \[Section No. 2.3.12\]](#)

[Public Input No. 118-NFPA 1900-2025 \[Section No. 2.3.12\]](#)

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sat May 03 11:35:20 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-170-NFPA 1900-2026](#)

Statement: Move IEC 62477-1 to IEC. It is not available from ISO.



Public Input No. 115-NFPA 1900-2025 [Section No. 2.3.9]

2.3.9 FAMA Publications.

Fire Apparatus Manufacturers Association, P.O. Box 3065, Ocala, FL 34478, www.fama.org.

FAMA TC008, *Graphical Symbols for Automotive Fire Apparatus*, 2014 2025

FAMA TC010, *Standard Product Safety Sign Catalog for Automotive Fire Apparatus*, - 2019 - 2025 .

FAMA TC079, *Ember Separator Test*, 2021.

Fire Apparatus Safety Guide, 2020 .

Statement of Problem and Substantiation for Public Input

Update document edition dates.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sat May 03 11:12:49 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The MOS requires the edition years for all references at the time of publication - regardless of how often the reference is updated. Without edition years, there is no way to determine what edition year of a document is being referenced.

**Public Input No. 116-NFPA 1900-2025 [Section No. 2.3.10]****2.3.10** IPC Publications.

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

IPC A-610H [610J](#) , *Acceptability of Electronic Assemblies*, 2020 [2024](#) .

Statement of Problem and Substantiation for Public Input

Update document version letter and edition date.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 117-NFPA 1900-2025 [Section No. 31.1.1.1]	
Public Input No. 117-NFPA 1900-2025 [Section No. 31.1.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sat May 03 11:15:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-171-NFPA 1900-2026](#)

Statement: Update document version letter and edition date.

**Public Input No. 118-NFPA 1900-2025 [Section No. 2.3.12]****2.3.12** ISO Publications.

International Organization for Standardization, ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, www.iso.org.

ISO 9244, *Earth-moving machinery — Machine safety labels — General principles*, 2008 ~~2016~~.

ISO/IEC 17020, *Conformity Assessment: Requirements for the operation of various types of bodies performing inspection*, 2012.

ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*, 2017.

ISO/IEC 17065, *Conformity Assessment: Requirements for bodies certifying products, processes and services*, 2012.

ISO 17840-4, *Road Vehicles — Information for first and second responders — Part 4: Propulsion energy identification*, 2018.

~~IEC 62477-1, *Safety Requirements for Power Electronic Converter Systems and Equipment*, 2012.~~

Statement of Problem and Substantiation for Public Input

Update document edition date. Remove IEC 62477-1. It is not available from ISO.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 119-NFPA 1900-2025 [New Section after 2.3.9]	
Public Input No. 119-NFPA 1900-2025 [New Section after 2.3.9]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Sat May 03 11:21:36 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-172-NFPA 1900-2026](#)

Statement: Update document edition date. Remove IEC 62477-1. It is not available from ISO. Add document referenced in 23.6.1.1 and 19.3.4. ISO 10924 was added to section 10.2.7.3 by Public Input 483.

**Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]****2.3.12** ISO Publications.

International Organization for Standardization, ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, www.iso.org.

ISO 9244, *Earth-moving machinery — Machine safety labels — General principles*, 2008.

ISO/IEC 17020, *Conformity Assessment: Requirements for the operation of various types of bodies performing inspection*, 2012.

ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*, 2017.

ISO/IEC 17065, *Conformity Assessment: Requirements for bodies certifying products, processes and services*, 2012.

ISO 17840-4, *Road Vehicles — Information for first and second responders — Part 4: Propulsion energy identification*, 2018.

IEC 62477-1, *Safety Requirements for Power Electronic Converter Systems and Equipment*, 2012.

UN/ISO 9809-2, *Gas cylinders - Design, construction and testing of refillable seamless steel gas cylinders and tubes - Part 2: Quenched and temperse steel cylinders and tubes with tensile strength greater than or equal to 1 100 MPa*, 2019.

Statement of Problem and Substantiation for Public Input

Add document referenced in 23.6.1.1 and 19.3.4.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 185-NFPA 1900-2025 [Section No. 3.3.13]	
Public Input No. 186-NFPA 1900-2025 [New Section after 3.3.154]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	
Public Input No. 188-NFPA 1900-2025 [Section No. A.23.5]	
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 186-NFPA 1900-2025 [New Section after 3.3.154]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sun May 18 18:23:57 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-172-NFPA 1900-2026](#)

Statement: Update document edition date. Remove IEC 62477-1. It is not available from ISO. Add document referenced in 23.6.1.1 and 19.3.4. ISO 10924 was added to section 10.2.7.3 by Public Input 483.

**Public Input No. 110-NFPA 1900-2025 [Section No. 2.3.13]****2.3.13** National Truck Equipment Association (NTEA) Publications, Ambulance Manufacturers Division (AMD) .

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

~~AMD-005, *Low Voltage Electrical System Test* , 2019.~~

~~AMD-006, *Patient Compartment Sound Level Test* , 2019.~~

~~AMD-008, *Handrail Static Load Test* , 2019.~~

~~AMD-010, *Water Leak Test* , 2019.~~

~~AMD-011, *Equipment Temperature Test* , 2019.~~

~~AMD-012, *Interior Climate Control Test* , 2019.~~

~~AMD-013, *Weight Distribution Measurements* , 2019.~~

~~AMD-015, *Ambulance Main Medical Gas System Test* , 2019.~~

~~AMD-016, *Patient Compartment Lighting Level Test* , 2019.~~

~~AMD-018, *Rear Stepping Surface Load Test* , 2019.~~

~~AMD-021, *Aspirator System Test* , 2019.~~

~~AMD-024, *Perimeter Illumination Test* , 2019.~~

~~AMD-025, *Occupant Head Clearance Zones Test* , 2019.~~

~~AMD-027, *Line Voltage Electrical Systems Test* , 2019.~~

~~AMD-028, *Vertical Component Retention — Static Test* , 2019.~~

Ambulance Manufacturers Division (AMD) Standardized Test Methods (STM), only available online at <https://www.ntea.com/amd-standardized-test-methods>.

Statement of Problem and Substantiation for Public Input

The AMD tests are all in one document, not available as separate documents, so only one referenced document is needed here.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 111-NFPA 1900-2025 [Section No. 29.2.2]	
Public Input No. 198-NFPA 1900-2025 [Section No. 31.3.4.2]	
Public Input No. 199-NFPA 1900-2025 [Section No. 31.6.1.2]	
Public Input No. 111-NFPA 1900-2025 [Section No. 29.2.2]	
Public Input No. 198-NFPA 1900-2025 [Section No. 31.3.4.2]	
Public Input No. 199-NFPA 1900-2025 [Section No. 31.6.1.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 01 17:11:55 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-160-NFPA 1900-2026](#)

Statement: The AMB-AAA identified updates to AMD tests cited in Chapters 28-34

**Public Input No. 176-NFPA 1900-2025 [Section No. 2.3.14]****2.3.14 – NATO Publications.**

Global Engineering Documents, An IHS Company, 15 Inverness Way East, Englewood, CO 80112, www.nato.int.

NATO Document, *Dynamic Stability Report—Allied Vehicle Testing Publication (AVTP)*, -03-16W.

Statement of Problem and Substantiation for Public Input

This document is not publicly available, either free or for purchase, from Global Engineering Documents, IHS, Accuris (formerly IHS), or any other source I have been able to identify. The test is already defined in 6.3.7.5. Public Input removes the reference to the NATO document. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 175-NFPA 1900-2025 [Section No. 4.2.1.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Thu May 15 14:01:15 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-173-NFPA 1900-2026](#)

Statement: This document is not publicly available, either free or for purchase, from Global Engineering Documents, IHS, Accuris (formerly IHS), or any other source I have been able to identify. The test is already defined in 6.3.7.5. Public Input removes the reference to the NATO document.



Public Input No. 120-NFPA 1900-2025 [Section No. 2.3.15]

2.3.15 SAE Publications.

SAE International, Society of Automotive Engineers, 901 15th Street, NW, Suite 520, Washington, DC 20005, www.sae.org/pubs.

SAE AIR1375D, *Minimum Safety Requirements for Special Purpose Airline Ground Support Equipment*, 2014.

SAE AIR6133, *Design and Safety Criteria for Passenger Boarding Stairways*, 2018 2025 .

SAE J156, *Fusible Links*, 2019 2022 .

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)*, 2020.

SAE J553, *Circuit Breakers*, 2016 2022 .

SAE J554, *Electric Fuses (Cartridge Type)*, 1987.

SAE J560, *Primary and Auxiliary Seven Conductor Electrical Connector for Truck-Trailer Jumper Cable*, 2020.

SAE J575, *Test Methods and Equipment for Lighting Devices and Components for Use on Vehicles Less Than 2032 mm in Overall Width*, 2018 2024 .

SAE J578, *Chromaticity Requirements of Ground Vehicle Lamps and Lighting Equipment*, 2020.

SAE J683, *Tire Chain Clearance — Trucks, Buses (Except Suburban, Intercity, and Transit Buses), and Combinations of Vehicles*, 2011.

SAE J845, *Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles*, 2021.

SAE J994, *Alarm — Backup — Electric, Laboratory Performance Testing*, 2014 2023 .

SAE J1127, *Low Voltage Battery Cable*, 2020.

SAE J1128, *Low Voltage Primary Cable*, 2020 2024 .

SAE J1673, *High Voltage Automotive Wiring Assembly Design*, 2012.

SAE J1849, *Emergency Vehicle Sirens, Stabilized*, 2020.

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

SAE J1889, *L.E.D. Signal and Marking Lighting Devices*, 2019 2025 .

SAE J1908, *Electrical Grounding Practice*, 2013.

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

SAE J2174, *Heavy-Duty Wiring Systems for Trailers 2032 mm or More in Width*, 2020.

SAE J2180, *A Tilt Table Procedure for Measuring the Static Rollover Threshold for Heavy Trucks*, 2011.

SAE J2181, *Steady State Circular Test Procedures for Trucks and Buses*, 2011.

SAE J2202, *Heavy-Duty Wiring Systems for On-Highway Trucks*, 2019 2024 .

SAE J2344, *Guidelines for Electric Vehicle Safety*, 2020.

SAE J2394, *Seven-Conductor Cable for ABS Power — Truck and Bus*, 2020.

SAE J2418, *Occupant Restraint System Evaluation — Frontal Impact Component-Level Heavy Trucks*, 2003.

SAE J2420, *COE Frontal Strength Evaluation — Dynamic Loading Heavy Trucks*, 2010.

SAE J2422, *Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks*, 2010.

SAE J2578, *Recommended Practice for General Fuel Cell Vehicle Safety*, 2014 2023 .

SAE J2863, *Automotive Trailer Tow Connector*, 2016 2023 .

SAE J2910, *Recommended Practice for the Design and Test of Hybrid Electric and Electric Trucks and Buses for Electrical Safety*, 2014.

SAE J2929, *Electric and Hybrid Vehicle Propulsion Battery System Safety Standard — Lithium-based Rechargeable Cells*, 2013.

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

SAE J3027, *Ambulance Litter Integrity, Retention, and Patient Restraint*, 2016 2022 .

SAE J3043, *Ambulance Equipment Mounts*, 2014.

SAE J3057, *Ambulance Modular Body Evaluation-Quasi-Static Loading For Type I and Type III Modular Ambulance Bodies*, 2017 2023 .

SAE J3058, *Ambulance Interior Storage Compartment Integrity*, 2016 2022 .

SAE J3102, *Ambulance Patient Compartment Structural Integrity Test to Support SAE J3027 Compliant Litter Systems*, 2017 2022 .

SAE J3351, *Stepping Surface Test Method for Heavy Vehicles*, 2025.

Statement of Problem and Substantiation for Public Input

Update document edition dates

The referenced version of SAE J2418 is intentionally the 2003 edition rather than the latest version. The later versions changed substantially. The 2003 edition of SAE J2418 provided a test crash pulse for Cab Over Engine trucks (similar to a custom fire apparatus) with a cosine function that is 11G in magnitude over a 130 millisecond duration. This is the crash pulse that all of the current SCBA holders have been tested to over many years. There have been no issues where SCBA holders designed to this criteria have failed. The 2015 revision to SAE J2418 replaced the test crash pulse with a new pulse that is 60G in magnitude over a 35 millisecond duration (a higher magnitude but a shorter duration). Since input energy is a function of both magnitude and time, the new pulse may be either more or less stringent, depending on the specifics of the component design and it's dynamic response to each pulse. Since there have been no known failures of SCBA holders designed to the 2003 standard, there is no justification for deviating from that standard. Adopting a new crash pulse would cause additional test burdens on the component supplier without a safety justification. The change was made to SAE J2418 Occupant Restraint System Evaluation -- Frontal impact Component-Level Heavy Trucks based on test data on occupant restraint systems (seat belts), not a need for change to SCBA pack and bottles, which is how it is used in this standard.

J2420 and J2422 are intentionally left at the 2010 edition for a similar reason, so cabs do not have to be redesigned and re-tested, which would be a very expensive proposition.

The following documents are unavailable in WIP status and may have new versions before the completion of the first draft: J560, J2929. SAE J3351 is a new standard referenced in revised 12.6.4.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 121-NFPA 1900-2025 [New Section after A.1.3]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sat May 03 11:41:47 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-174-NFPA 1900-2026](#)

Statement: Update document edition dates

The referenced version of SAE J2418 is intentionally the 2003 edition rather than the latest version. The later versions changed substantially. The 2003 edition of SAE J2418 provided a test crash pulse for Cab Over Engine trucks (similar to a custom fire apparatus) with a cosine function that is 11G in magnitude over a 130 millisecond duration. This is the crash pulse that all of the current SCBA holders have been tested to over many years. There have been no issues where SCBA holders designed to this criteria have failed. The 2015 revision to SAE J2418 replaced the test crash pulse with a new pulse that is 60G in magnitude over a 35 millisecond duration (a higher magnitude but a shorter duration). Since input energy is a function of both magnitude and time, the new pulse may be either more or less stringent, depending on the specifics of the component design and it's dynamic response to each pulse. Since there have been no known failures of SCBA holders designed to the 2003 standard, there is no justification for deviating from that standard. Adopting a new crash pulse would cause additional test burdens on the component supplier without a safety justification. The change was made to SAE J2418 Occupant Restraint System Evaluation -- Frontal impact Component-Level Heavy Trucks based on test data on occupant restraint systems (seat belts), not a need for change to SCBA pack and bottles, which is how it is used in this standard.

J2420 and J2422 are intentionally left at the 2010 edition for a similar reason, so cabs do not have to be redesigned and re-tested, which would be a very expensive proposition.

The following documents are unavailable in WIP status and may have new versions before the completion of the first draft: J560, J2929.

SAE J3351 is a new standard referenced in revised 12.6.4.

**Public Input No. 122-NFPA 1900-2025 [Section No. 2.3.16]****2.3.16** TRA Publications.

Tire and Rim Association, Inc., 175 Montrose West Ave., Copley, OH 44321, www.US-TRA.org.

Tire and Rim Association — Year Book, - 2023 _ 2028 .

Statement of Problem and Substantiation for Public Input

Update document edition date.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sat May 03 13:27:53 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The MOS requires the edition years for all references at the time of publication - regardless of how often the reference is updated. Without edition years, there is no way to determine what edition year of a document is being referenced.

**Public Input No. 123-NFPA 1900-2025 [Section No. 2.3.17]****2.3.17** UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096, <http://ul.com>.

UL 153, *Portable Electric Luminaires*, 2024 [2025](#) .

UL 498, *Attachment Plugs and Receptacles*, 2024 [2024](#) .

UL 969, *Standard for Marking and Labeling Systems*, 2018 [2023](#) .

UL 1310, *Standard for Class 2 Power Units*, 2019 [2022](#) .

UL 1598, *Luminaires*, 2024 [2024](#) .

UL 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, 2018 [2024](#) .

UL 2231-1, *Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: General Requirements*, 2021.

UL 2231-2, *Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Particular Requirements for Protection Devices for Use in Charging Systems*, 2020.

UL 8750, *Light Emitting Diode (LED) Equipment for Use in Lighting Products*, 2024 [2024](#) .

Statement of Problem and Substantiation for Public Input

Update document edition dates and document name.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sat May 03 13:30:23 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-176-NFPA 1900-2026](#)

Statement: Update document edition dates and document name.

**Public Input No. 124-NFPA 1900-2025 [Section No. 2.3.18]****2.3.18 UNECE Publications.**

UN Economic Commission for Europe, Palais des Nations, CH-1211, Geneva 10 Switzerland, www.unece.org.

UN 38.3, *Certification for Lithium Batteries*, 2019 2024 .

ECE Regulation number 29, *Uniform Provisions Concerning the Approval of Vehicles with Regard to the Protection of the Occupants of the Cab of a Commercial Vehicle*, 2011.

Statement of Problem and Substantiation for Public Input

Update document edition date. Crash test standard is not updated so as to not require updating cab crash testing.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Sat May 03 13:33:10 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-177-NFPA 1900-2026](#)

Statement: Update document edition date. Crash test standard is not updated so as to not require updating cab crash testing.

**Public Input No. 310-NFPA 1900-2025 [Section No. 2.3.20]****2.3.20 US Government Publications.**

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001.

Federal Motor Carrier Safety Administration: *FMVSS 121 Brake Performance and Stability Testing*.

Public Law 89-563.

~~Title 29, Code of Federal Regulations, Part 1910.169, "Air receivers."~~ Title 49, Code of Federal Regulations, Part 178.37, "Specification 3AA and 3AAX, seamless steel cylinders."

Title 49, Code of Federal Regulations, Part 393.94, "Interior noise levels in power units, test procedure."

Title 49, Code of Federal Regulations, Part 567, "Certification."

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

Title 49, Code of Federal Regulations, Part 571.121, "Air Brake Systems."

Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards," No. 108, "Lamps, reflective devices, and associated equipment."

Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards," No. 302, "Flammability of interior materials."

Title 49, Code of Federal Regulations, Part 571 Subpart B, "Federal Motor Vehicle Safety Standards," No. 305, "Electric Powered Vehicles: Electrolyte Spillage and Electrical Shock Protection."

Statement of Problem and Substantiation for Public Input

Document no longer referenced.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Tue Jun 17 15:02:19 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-178-NFPA 1900-2026

Statement: Document no longer referenced.

**Public Input No. 125-NFPA 1900-2025 [Section No. 2.3.21]****2.3.21** Other Publications.

~~Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., 47 Federal Street, Springfield, MA, 2003 01105, www.merriam-webster.com~~

Merriam-Webster's Collegiate Dictionary, 11th edition, 2003.

Statement of Problem and Substantiation for Public Input

Update format of listing to match other sections.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sat May 03 13:43:00 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is handled by editorial and will be updated by them.

**Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]****2.4** References for Extracts in Mandatory Sections.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2022 - 2026 edition.

NFPA 70[®], *National Electrical Code*[®], 2023 - 2026 edition.

NFPA 440, *Guide for Aircraft Rescue and Firefighting Operations and Airport/Community Emergency Planning*, 2024 - 2028 edition.

NFPA 1150, *Standard on Foam Chemicals for Fires in Class A Fuels*, 2022 - 2027 edition.

NFPA 1454 NFPA 1400 , *Standard for a on Fire and Emergency Service Vehicle Operations Training Program* , 2022 - 2026 edition.

NFPA 1932 NFPA 1930 , *Standard on Use, Maintenance, Fire and Emergency Service Testing of In-Service Fire Department Ground Ladders*, 2020 - edition. NFPA 1961, *Standard on Fire Hose*, 2020 *Use of Thermal Imagers, Two-Way Portable RF Voice Communication Devices, Ground Ladders, Rescue Tools, Fire Hose, and Fire Hose Appliances*, 2025 edition.

NFPA 1960, *Standard for Fire Hose Connections, Spray Nozzles, Manufacturer's Design of Fire Department Ground Ladders, Fire Hose, and Power Rescue Tools*, 2024 edition.

NFPA 1989, *Standard on Breathing Air Quality for Emergency Services Respiratory Protection*, 2019 - 2028 edition.

Statement of Problem and Substantiation for Public Input

Update edition dates and the document numbers and titles due to consolidations in accordance with the NFPA Manual of Style 6.1.3.1. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 98-NFPA 1900-2025 [Sections 3.3.49, 3.3.50, 3.3.51]	
Public Input No. 99-NFPA 1900-2025 [Section No. 3.3.9]	
Public Input No. 101-NFPA 1900-2025 [Section No. 3.3.233]	
Public Input No. 97-NFPA 1900-2025 [Section No. 3.3.61]	
Public Input No. 79-NFPA 1900-2025 [Section No. 3.3.126]	
Public Input No. 81-NFPA 1900-2025 [Section No. 3.3.202]	
Public Input No. 90-NFPA 1900-2025 [Sections 3.3.267, 3.3.268, 3.3.269, 3.3.270]	
Public Input No. 89-NFPA 1900-2025 [Section No. 12.10]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 79-NFPA 1900-2025 [Section No. 3.3.126]	
Public Input No. 81-NFPA 1900-2025 [Section No. 3.3.202]	
Public Input No. 89-NFPA 1900-2025 [Section No. 12.10]	
Public Input No. 90-NFPA 1900-2025 [Sections 3.3.267, 3.3.268, 3.3.269, 3.3.270]	
Public Input No. 97-NFPA 1900-2025 [Section No. 3.3.61]	
Public Input No. 98-NFPA 1900-2025 [Sections 3.3.49, 3.3.50, 3.3.51]	
Public Input No. 99-NFPA 1900-2025 [Section No. 3.3.9]	
Public Input No. 101-NFPA 1900-2025 [Section No. 3.3.233]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 12:34:37 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-180-NFPA 1900-2026

Statement: Update edition dates and the document numbers and titles due to consolidations in accordance with the NFPA Manual of Style 6.1.3.1.



Public Input No. 486-NFPA 1900-2025 [New Section after 3.3]

TITLE OF NEW CONTENT

Type I Trailer: Trailers that are designed to remain connected to their tow vehicle throughout the response event and that are dependent on the tow vehicle to provide the required electrical power and conspicuity.

Type II Trailer: Trailers that are designed to allow separation from their tow vehicle after arrival at the response event and that are not dependent on the tow vehicle to provide the required electrical power and conspicuity.

Type III Trailer: Open trailers designed to transport other vehicles, equipment, or containers that will be removed from the trailer after arrival at the response event and that will not be blocking the right-of way during the incident.

Statement of Problem and Substantiation for Public Input

Suggest moving the definitions of Type I, II, and III trailers from Chapter 25 to Chapter 3.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 13:48:41 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: Since these terms are unique to this document, and used only in chapter 25, the committee felt that it was more useful to leave the definitions in chapter 25. Titles were added in response to Public Input 485 to make it easier to find the definitions.

**Public Input No. 99-NFPA 1900-2025 [Section No. 3.3.9]****3.3.9* Aircraft Rescue and Firefighting (ARFF).**

The firefighting action taken to prevent, control, or extinguish fire ~~involved~~ involving or adjacent to an aircraft for the purpose of maintaining maximum escape routes for occupants using normal and emergency routes for egress. ~~[440,- 2024 , 2028]~~

Statement of Problem and Substantiation for Public Input

Update extracted text and edition.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 17:30:55 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-181-NFPA 1900-2026](#)

Statement: Update extracted text and edition.

**Public Input No. 185-NFPA 1900-2025 [Section No. 3.3.13]****3.3.13* Air Tank.**

A storage vessel meeting the requirements of either U.S. Department of Transportation (DOT) or American Society of Mechanical Engineers (ASME) and used to store an accumulation of air under pressure.

Statement of Problem and Substantiation for Public Input

A definition is not supposed to include requirements.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sun May 18 17:01:13 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-182-NFPA 1900-2026](#)

Statement: A definition is not supposed to include requirements.

**Public Input No. 126-NFPA 1900-2025 [Section No. 3.3.22]****3.3.22 Automatic Electrical Load Management System.**

A device that continuously monitors the electrical system voltage and automatically sheds predetermined loads in a selected order to prevent ~~overdischarging~~ over discharging of the vehicle's batteries.

Statement of Problem and Substantiation for Public Input

Grammatical. There should be a space between over and discharging.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 08 17:16:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: 'Over' is used as a prefix in this instance and should not be separated by a space. 'Overdischarging' is considered one word.



Public Input No. 393-NFPA 1900-2025 [New Section after 3.3.39]

Brush Rails - Brush rails are a cage type structure following the body lines of the apparatus to protect the body from damage, sometimes called sweeps or limb risers.

Statement of Problem and Substantiation for Public Input

Brush rails could be mistakenly interpreted to mean the item commonly called rock sliders, side steps, running boards or nerf bars attached to the lower part of the chassis below the doors. A definition is needed

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 20 15:07:49 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-184-NFPA 1900-2026](#)

Statement: Brush rails could be mistakenly interpreted to mean the item commonly called rock sliders, side steps, running boards or nerf bars attached to the lower part of the chassis below the doors. A definition is needed, which is why this is being added.

**Public Input No. 98-NFPA 1900-2025 [Sections 3.3.49, 3.3.50, 3.3.51]****Sections 3.3.49, 3.3.50, 3.3.51****3.3.49 Class A Fires.**

Class A fires are fires in ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics. [10,- 2018 _ 2026]

3.3.50 Class A Foam.

Foam for use on fires in Class A fuels. [1150,- 2022 _ 2027]

3.3.51 Class A Fuel.

Materials such as vegetation, wood, cloth, paper, rubber, and some plastics in which combustion can occur at or below the surface of the material. [1150,- 2022 _ 2027]

Statement of Problem and Substantiation for Public Input

Update edition dates for extracted material.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Wed Apr 30 17:17:52 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be update by editorial due to the update in chapter 2.



Public Input No. 97-NFPA 1900-2025 [Section No. 3.3.61]

3.3.61 Compressed Breathing Air.

A respirable gas mixture derived from either normal atmospheric air or from manufactured synthetic air, stored in a compressed state in storage cylinders and respirator breathing air cylinders, and supplied to the user in gaseous form. [1989,- 2019 _ 2028]

Statement of Problem and Substantiation for Public Input

Update revision date for extracted text.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Wed Apr 30 17:08:50 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be update by editorial due to the update in chapter 2.

**Public Input No. 128-NFPA 1900-2025 [New Section after 3.3.86]****3.3.87 Electrical Vehicle (EV) Motor**

See 3.3.91.1.

Statement of Problem and Substantiation for Public Input

Cross reference to allow user to find this definition under Engine.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 08 17:24:47 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-185-NFPA 1900-2026](#)

Statement: Cross reference to allow user to find this definition under Engine.

**Public Input No. 127-NFPA 1900-2025 [New Section after 3.3.90]****3.3.91 EMSP**

Emergency Medical Service Provider.

Statement of Problem and Substantiation for Public Input

This acronym is used in chapter 30.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 08 17:22:03 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-186-NFPA 1900-2026](#)

Statement: This acronym is used in chapter 30.

**Public Input No. 129-NFPA 1900-2025 [New Section after 3.3.113]****3.3.114 Fuel Cell**

See 3.3.92.2.

Statement of Problem and Substantiation for Public Input

Cross reference to allow user to find this definition under Engine.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 08 17:28:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-187-NFPA 1900-2026

Statement: Cross reference to allow user to find this definition under Engine.



Public Input No. 79-NFPA 1900-2025 [Section No. 3.3.126]

3.3.126* Ground-Fault Circuit Interrupter (GFCI).

A device intended for the protection of personnel that functions to de-energize a circuit or portion thereof within an established period of time when a ground-fault current exceeds the values established for a Class A device. [70, 2023 2026]

Statement of Problem and Substantiation for Public Input

Update the reference format for definition extracts in accordance with the NFPA Manual of Style 2023 "7.3.1.2 General definitions taken from another document shall be treated as extracts with the reference to the parent document and the edition year given in brackets at the end of the extracted definition."

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1919

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 13:29:22 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be update by editorial due to the update in chapter 2.

**Public Input No. 131-NFPA 1900-2025 [Section No. 3.3.135]****3.3.135** Hybrid Vehicle.

A vehicle ~~made up of~~ including a propulsion system having sufficient mechanical power available from a rechargeable energy storage system and from ~~the~~ an internal combustion engine to operate the vehicle drive from either source without the aid of the other source.

Statement of Problem and Substantiation for Public Input

Improved wording (a vehicle is made up of more than just the propulsion system) and consistency with other definitions (per 3.3.92, Engine includes EV Motor).

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group of NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 12:54:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-188-NFPA 1900-2026](#)

Statement: Improved wording (a vehicle is made up of more than just the propulsion system) and consistency with other definitions (per 3.3.92, Engine includes EV Motor).

**Public Input No. 132-NFPA 1900-2025 [Section No. 3.3.149]****3.3.149*** Interaxle Clearance- (Ramp Breakover Angle) .

The measure of the ability of a fully loaded vehicle to negotiate a ramp without encountering interference between the vehicle and the ramp between any two axles smallest angle made between the horizontal ground line and a line tangent to the loaded radius of the closest tire and an obstruction under the vehicle between the axles on ARFF vehicles .

Statement of Problem and Substantiation for Public Input

Correct this definition. This term is only used on ARFF vehicles.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 133-NFPA 1900-2025 [Section No. A.3.3.149]	
Public Input No. 134-NFPA 1900-2025 [Section No. 3.3.236]	
Public Input No. 135-NFPA 1900-2025 [New Section after A.3.3.234]	
Public Input No. 133-NFPA 1900-2025 [Section No. A.3.3.149]	
Public Input No. 134-NFPA 1900-2025 [Section No. 3.3.236]	
Public Input No. 135-NFPA 1900-2025 [New Section after A.3.3.234]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 13:15:40 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-193-NFPA 1900-2026](#)

Statement: Correct this definition. This term is only used on ARFF vehicles. The Interaxle Clearance is not the same as the Ramp Breakover Angle but they are in a 1:2 ratio.

**Public Input No. 130-NFPA 1900-2025 [New Section after 3.3.153]****3.3.154 Internal Combustion (IC) Engine**

See 3.3.92.3.

Statement of Problem and Substantiation for Public Input

Cross reference to allow user to find this definition under Engine.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 08 17:31:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-190-NFPA 1900-2026

Statement: Cross reference to allow user to find this definition under Engine.

**Public Input No. 186-NFPA 1900-2025 [New Section after 3.3.154]****3.3.155 ISO Cylinder or UN/ISO Cylinder**

A pressure vessel constructed and tested in accordance with UN/ISO 9809-2 that is used for the storage and transportation of air under pressure.

Statement of Problem and Substantiation for Public Input

UN/ISO has largely replaced DOT for non-ASME air cylinders. This definition parallels 3.3.20 Pressure Vessel, and 3.3.75 DOT Cylinder. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sun May 18 17:24:13 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-191-NFPA 1900-2026](#)

Statement: UN/ISO has largely replaced DOT for non-ASME air cylinders. This definition parallels 3.3.20 Pressure Vessel, and 3.3.75 DOT Cylinder.

T



Public Input No. 94-NFPA 1900-2025 [Section No. 3.3.179]

3.3.179 National Hose Thread (NH).

A standard screw thread that has dimensions for inside (female) and outside (male) fire hose connections as defined in NFPA 1963 NFPA 1960 .

Statement of Problem and Substantiation for Public Input

Update reference to correct document due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 16:49:01 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be update by editorial due to the update in chapter 2.

**Public Input No. 81-NFPA 1900-2025 [Section No. 3.3.202]****3.3.202** Panelboard.

A single panel or group of panel units designed for assembly in the form of a single panel, including buses and automatic overcurrent protective devices (OCPDs) , and equipped with or without switches for the control of light, heat, or power circuits; designed to be placed in a cabinet or cutout box placed in or against a wall, partition, or other support; and accessible only from the front. [70: 400 , 2026]

Statement of Problem and Substantiation for Public Input

Update the reference format for definition extracts in accordance with the NFPA Manual of Style 2023 "7.3.1.2 General definitions taken from another document shall be treated as extracts with the reference to the parent document and the edition year given in brackets at the end of the extracted definition." Update the text to the latest text that is extracted.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 13:38:37 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-192-NFPA 1900-2026](#)

Statement: Update the reference format for definition extracts in accordance with the NFPA Manual of Style 2023 "7.3.1.2 General definitions taken from another document shall be treated as extracts with the reference to the parent document and the edition year given in brackets at the end of the extracted definition." Update the text to the latest text that is extracted.

**Public Input No. 101-NFPA 1900-2025 [Section No. 3.3.233]****3.3.233** Qualified Person.

A person who, by possession of a recognized degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems related to the subject matter, the work, or the project.
[1451 1400 , - 2022 _ 2026]

Statement of Problem and Substantiation for Public Input

Update document number and edition due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 17:42:05 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be update by editorial due to the update in chapter 2.

**Public Input No. 134-NFPA 1900-2025 [Section No. 3.3.236]****3.3.236– * _ Ramp Breakover Angle.**

The angle measured between two lines tangent to the front and rear tire static loaded radius, and intersecting at a point on the underside of the vehicle that defines the largest ramp over which the vehicle can roll.

Statement of Problem and Substantiation for Public Input

Add annex item. See Public Input 135.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 132-NFPA 1900-2025 [Section No. 3.3.149]	
Public Input No. 133-NFPA 1900-2025 [Section No. A.3.3.149]	
Public Input No. 135-NFPA 1900-2025 [New Section after A.3.3.234]	
Public Input No. 132-NFPA 1900-2025 [Section No. 3.3.149]	
Public Input No. 133-NFPA 1900-2025 [Section No. A.3.3.149]	
Public Input No. 135-NFPA 1900-2025 [New Section after A.3.3.234]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 13:40:48 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-194-NFPA 1900-2026](#)

Statement: Link to relationship with Interaxle Clearance and the process for measuring both.



Public Input No. 90-NFPA 1900-2025 [Sections 3.3.267, 3.3.268, 3.3.269, 3.3.270]

Sections 3.3.267, 3.3.268, 3.3.269, 3.3.270

3.3.267 Suction Hose.

A hose that is designed to prevent collapse under vacuum conditions so that it can be used for drafting water from below the pump (lakes, rivers, wells, etc.). [~~1961~~ **1960** ,- 2020 - 2024]

3.3.268 Suction Lift.

The sum of the vertical lift and the friction and entrance loss caused by the flow through the intake strainers and hose expressed in feet of water (meters of water) head.

3.3.269 Sump.

A recessed area of a tank assembly designed primarily to entrap sludge or debris for removal and to serve as a central liquid collection point.

3.3.270 Supply Hose.

Hose designed for the purpose of moving water between a pressurized water source and a pump that is supplying attack lines. [~~1961~~ **1960** ,- 2020 - 2024]

Statement of Problem and Substantiation for Public Input

Update extract references to correct document and edition due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 16:31:26 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be update by editorial due to the update in chapter 2.

**Public Input No. 480-NFPA 1900-2025 [Section No. 3.3.304]**

3.3.

304 Water

304 Water Tower.

An elevating aerial device

consisting of permanently mounted power-operated booms that articulate, telescope, or both, and a waterway designed to supply a large capacity

designed primarily to provide a mobile elevated water stream without a means of rescuing people .

Statement of Problem and Substantiation for Public Input

The way we currently define a Water Tower the definition would also fit any ladder or platform with a waterway. We need to emphasize that a water tower is not designed for rescue. It may have an escape ladder, but if it had a compliant ladder it would be an aerial ladder with a waterway. As for the large capacity term, there are clearly water towers designed with no more capacity than what you can get from a typical waterway. In fact the minimum flow rate in the Water Tower section is the same as that for a ladder.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 479-NFPA 1900-2025 [Section No. 20.21.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 17:36:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-195-NFPA 1900-2026

Statement: The way we currently define a Water Tower the definition would also fit any ladder or platform with a waterway. We need to emphasize that a water tower is not designed for rescue. It may have an escape ladder, but if it had a compliant ladder it would be an aerial ladder with a waterway. As for the large capacity term, there are clearly water towers designed with no more capacity than what you can get from a typical waterway. In fact the minimum flow rate in the Water Tower section is the same as that for a ladder.

**Public Input No. 136-NFPA 1900-2025 [Section No. 3.3.313]****3.3.313** Wildland Fire Suppression Apparatus.

~~A fire~~ A fire apparatus designed for fighting wildland fires that is equipped with a pump, a water tank, limited hose and equipment, and pump-and-roll capability.

Statement of Problem and Substantiation for Public Input

Typo.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 13:55:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-196-NFPA 1900-2026](#)

Statement: This change corrects a typo.

**Public Input No. 137-NFPA 1900-2025 [Section No. 7.1.3.1]****7.1.3.1***

Chapters 7 through 27 shall apply to new fire apparatus that meet the following criteria:

- (1) Have 10,001 lb (4501 kg) or greater gross vehicle weight rating (GVWR) or are trailers intended to be towed by fire apparatus under emergency response conditions
- (2) Are designed for use under emergency conditions to transport personnel and equipment and to support the suppression of fires and mitigation of other hazardous situations, including wildland fires
- (3) Are contracted for on or after January 1, 2024 2028

Statement of Problem and Substantiation for Public Input

Next edition effective date.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 14:00:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-197-NFPA 1900-2026

Statement: This change is made to update to the next edition effective date for this portion of the document, which is different than the NFPA effective date.

**Public Input No. 320-NFPA 1900-2025 [Section No. 7.1.3.2]****7.1.3.2**

Nothing shall prevent the use of the standard prior to January 1, ~~2024~~ 2028 , or for vehicles with less than 10,001 lb (4501 kg) gross vehicle weight rating (GVWR), if the purchaser and the contractor both agree.

Statement of Problem and Substantiation for Public Input

Update to new edition date.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sun Jun 29 13:33:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-198-NFPA 1900-2026](#)

Statement: This change is made to update to the next edition effective date for this portion of the document, which is different than the NFPA effective date.



Public Input No. 138-NFPA 1900-2025 [Sections 7.2, 7.3]

Sections 7.2, 7.3

7.2 General.

7.2.1 –

All fire apparatus shall comply with the following chapters:

- (1) Chapter 1, "Administration"
- (2) Chapter 2, "Referenced Publications"
- (3) Chapter 3, "Definitions"
- (4) Chapter 7, "~~General~~ " Fire Apparatus — General Requirements"
- (5) Chapter 8, "Fire Apparatus — Requirements by Type"
- (6) Chapter 9, "~~Chassis~~ " Fire Apparatus — Chassis and Vehicle Components"
- (7) Chapter 10, "~~Low~~ " Fire Apparatus — Low Voltage Electrical Systems and Warning Devices"
- (8) Chapter 11, "~~Driving~~ " Fire Apparatus — Driving and Crew Areas"
- (9) Chapter 12, "~~Body~~ " Fire Apparatus — Body , Compartments, and Equipment Mounting"

7.3 Requirements by Apparatus Type.

7.3.1

Table 7.3.1 shows the required chapters that shall apply to the construction of each type of fire apparatus.

Table 7.3.1 Chapter Requirements by Apparatus

<u>Chapter</u>	<u>Pumper Fire Apparatus</u>	<u>Initial Attack Fire Apparatus</u>	<u>Mobile Water Supply Fire Apparatus</u>	<u>Aerial Fire Apparatus</u>	<u>Quint Fire Apparatus</u>	<u>Special Service Fire Apparatus</u>	<u>Mobile Foam Fire Apparatus</u>	<u>Wildland Fire Suppression Apparatus</u>	<u>Wildland Mobile Water Supply Apparatus</u>	<u>V</u>
13. <u>Fire Apparatus — Fire Pumps and Associated Equipment</u>	Required	Required	If specified	If specified	Required	If specified	Required	If specified	If specified	N/A
14. <u>Fire Apparatus — Auxiliary Pumps and Associated Equipment</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	N/A	N/A	N/A
15. <u>Fire Apparatus — Pumps for Wildland Firefighting and Associated Equipment</u>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Required	Required	N/A
16. <u>Fire Apparatus — Ultra-High Pressure Fire Pumps and Associated Equipment</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	N/A
17. <u>Fire Apparatus — Water Tanks</u>	Required	Required	Required	If specified	Required	If specified	If specified	Required	Required	N/A
18. <u>Fire Apparatus — Foam Proportioning Systems</u>	If specified	If specified	If specified	If specified	If specified	If specified	Required	If specified	If specified	N/A
19. <u>Fire Apparatus — Compressed Air Foam Systems (CAFS)</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	N/A
20. <u>Fire Apparatus — Aerial Devices</u>	If specified	If specified	N/A	Required	Required	If specified	If specified	N/A	N/A	N/A
21. <u>Fire Apparatus — Line Voltage Electrical Systems</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If s
22. <u>Fire Apparatus — Command and Communications</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	N/A	N/A	N/A
23. <u>Fire Apparatus — Air Systems</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	N/A	N/A	N/A
24. <u>Fire Apparatus — Winches</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If s
25. <u>Fire Apparatus — Trailers</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If s
26. <u>Vehicle Protection Systems</u>	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If specified	If s
27. <u>Fire Apparatus — Wildland Fire Crew Carrier Apparatus</u>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Re

7.3.2

In addition to the types of fire apparatus listed in 7.3.1, other types of fire apparatus shall be permitted by combining the requirements for the components to be used in the apparatus as defined in Section 7.6 with the requirements listed in Section 7.2.

Statement of Problem and Substantiation for Public Input

Correct chapter titles. Remove unneeded section number.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Mon May 12 14:05:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-199-NFPA 1900-2026](#)

Statement: These changes are being made in order to correct chapter titles and to remove unneeded section number.

**Public Input No. 325-NFPA 1900-2025 [Section No. 7.11.3]****7.11.3**

The centerline of any gauge or visual display required by Chapters 7 through 34–27 shall be no more than 84 in. (2130 mm) vertically above the ground (with vehicle at in-service weight) or the platform that is designed to serve as the operator's standing position.

Statement of Problem and Substantiation for Public Input

Correct chapter reference.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Sun Jun 29 14:05:31 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-200-NFPA 1900-2026](#)

Statement: This change is to correct the chapter reference.



Public Input No. 331-NFPA 1900-2025 [Section No. 7.14]

7.14 – Vehicle Stability.**7.14.1 * – Stability Control System****7.14.1.1 –**

The apparatus shall be equipped with a stability control system in any configuration for which it is commercially available.

7.14.1.2 –

The stability control system shall have, at a minimum, a steering wheel position sensor, a vehicle yaw sensor, a lateral accelerometer, and individual wheel brake controls.

7.14.2 –

Apparatus completed in two or more stages shall not exceed the incomplete vehicle manufacturer's maximum allowable vertical center of gravity.

7.14.3 – Rollover Stability.**7.14.3.1 –**

Structural fire apparatus not equipped with a stability control system and all wildland fire apparatus shall meet either of the following:

- (1)* The apparatus shall remain stable in both directions in accordance with Table 7.14.3.1 when tested on a tilt table in accordance with SAE J2180, *A Tilt Table Procedure for Measuring the Static Rollover Threshold for Heavy Trucks*.
- (2) The calculated or measured vertical center of gravity (VCG) divided by the rear axle track width shall not exceed the applicable criterion in Table 7.14.3.1.

Table 7.14.3.1 Rollover Stability Requirements

Vehicle Tilt Criteria (degrees) VCG/Track (percentage) Wildland fire apparatus ≤33,000 lb (15,000 kg) GVWR 30 75 Wildland fire apparatus >33,000 lb (15,000 kg) GVWR 27 80 Structural fire apparatus not equipped with a stability control system 26.5 80

7.14.3.2 –

Certification shall be by one of the following methods:

- (1) Performing a tilt table test on the completed apparatus
- (2) Calculating the point at which the apparatus will tip based on centers of gravity, suspension geometry, suspension compliance, and tire compliance
- (3) Comparing the apparatus design to a previously certified substantially similar apparatus
- (4) Demonstrating that the calculated or measured center of gravity (CG) divided by the rear axle track width does not exceed the value in Table 7.14.3.1.

7.14.3.3 –

Certification shall be delivered with the fire apparatus.

7.14.3.4 –

A previously certified apparatus shall be considered substantially similar if it includes a chassis with the same or higher CG height, the same or narrower rear axle track width, the same or greater water tank size and CG height, the same type of front and rear suspension, and the same type and size of aerial device.

7.14.3.5 –

For purposes of certification the apparatus shall be loaded with fuel, water, firefighting agents, hose, ladders, a weight of 250 lb in each seating position, and weight equivalent to the miscellaneous equipment allowance.

7.14.3.6 –

If the apparatus is designed to meet a specified higher equipment loading or larger hose bed capacity or to carry additional ground ladders, these greater loads shall be accounted for in the testing, calculating, or measuring.

7.14.3.7 –

The weight added to the fire apparatus for certification, calculation, or measurement shall be distributed to approximate typical in-service use of the fire apparatus while not exceeding the manufacturer's published individual compartment weight ratings.

7.14.4 – Weight Distribution.**7.14.4.1 * –**

When the fire apparatus is loaded to its estimated in-service weight, the front-to-rear weight distribution shall be within the limits set by the chassis manufacturer.

7.14.4.2 –

The front axle loads shall not be less than the minimum axle loads specified by the chassis manufacturer under full load and all other loading conditions.

7.14.5 – Load Distribution.

7.14.5.1 * –

The apparatus manufacturer shall calculate the load distribution for the apparatus.

7.14.5.2 –

The apparatus manufacturer shall deliver the load distribution plan with every fire apparatus.

7.14.5.3 –

The manufacturer shall design the fire apparatus to comply with the gross axle weight ratings (GAWR), the overall gross vehicle weight rating (GVWR), and the chassis manufacturer's load balance guidelines.

7.14.5.4 * –

The fire apparatus, when loaded to its estimated in-service weight, shall have a side-to-side tire load variation of no more than 7 percent of the total tire load for that axle.

7.14.6 * –

Each tire shall be equipped with a visual indicator or monitoring system that indicates tire pressure.

Statement of Problem and Substantiation for Public Input

Move this information to Chassis chapter after 9.3

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 332-NFPA 1900-2025 [New Section after 9.3.6.5]	
Public Input No. 332-NFPA 1900-2025 [New Section after 9.3.6.5]	
Public Input No. 335-NFPA 1900-2025 [Sections A.7.14.1, A.7.14.3.1(1), A.7.14.4.1, A.7.14.5.1, A...]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jun 30 17:50:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-201-NFPA 1900-2026

Statement: The committee is moving this text to it's proper location within the standard. The current 7.14.5, 7.14.5.1, 7.14.5.2, and 7.14.5.3 are not included in this move to 9.4.

When operating in the wildland fire environment, stability control systems can interfere with safe vehicle operation by unnecessary activating/engaging at inopportune times, such as maneuvering/navigating on tight/narrow/steep/switchback roads or operating off-road. The vehicle stability systems are not optimized for higher center of gravity four-wheel drive designed vehicles and frequently activates when no activation is needed. Wildland Fire apparatus frequently works off of public highways and further information is necessary before requiring these on all wildland fire apparatus.

**Public Input No. 5-NFPA 1900-2024 [Section No. 7.14.1.1]****7.14.1.1**

~~The Structural fire~~ apparatus shall be equipped with a stability control system in any configuration for which it is commercially available.

Statement of Problem and Substantiation for Public Input

When operating in the wildland fire environment, stability control systems can interfere with safe vehicle operation by unnecessary activating/engaging at inopportune times, such as maneuvering/navigating on tight/narrow/steep/switchback roads or operating off-road. The vehicle stability systems are not optimized for higher center of gravity four-wheel drive designed vehicles and frequently activates when no activation is needed. Wildland Fire apparatus frequently works off of public highways and further information is necessary before requiring these on all wildland fire apparatus.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 18 16:27:28 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-201-NFPA 1900-2026

Statement: The committee is moving this text to it's proper location within the standard. The current 7.14.5, 7.14.5.1, 7.14.5.2, and 7.14.5.3 are not included in this move to 9.4.

When operating in the wildland fire environment, stability control systems can interfere with safe vehicle operation by unnecessary activating/engaging at inopportune times, such as maneuvering/navigating on tight/narrow/steep/switchback roads or operating off-road. The vehicle stability systems are not optimized for higher center of gravity four-wheel drive designed vehicles and frequently activates when no activation is needed. Wildland Fire apparatus frequently works off of public highways and further information is necessary before requiring these on all wildland fire apparatus.

**Public Input No. 437-NFPA 1900-2025 [Sections 7.16.2, 7.16.3]****Sections 7.16.2, 7.16.3****7.16.2***

The maximum top speed of any fire apparatus with a GVWR over 33,000 lb (15,000 kg) shall not exceed either ~~68 mph~~ 75 mph (109 km/hr) or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower.

7.16.3

If the combined water tank and foam agent tank capacities on the fire apparatus exceed 1250 gal (4732 L), or the GVWR of the vehicle is over 50,000 lb (22,680 kg), the maximum top speed of the apparatus shall not exceed either ~~60 mph~~ 70 mph (95 km/hr) or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower.

Statement of Problem and Substantiation for Public Input

Thank you for the committee's time in reviewing this matter.

Adding to the several comments made regarding this NFPA Code. I believe there should be some limit on apparatus top speeds, but we need to take a step back and review the change that was made and how we can make it better. I believe the committee has the right intentions in regards to speed limiting factors, but I don't believe the speeds that are agreed upon today need to say at the 60 and 68. Comments were made in regards to the interstate highway system, and top speeds and speed limits. Rightfully so, would it not be more appropriate to travel at safe highway speeds, rather than potentially 10 under the speed limit.

Has there been a significant or any drops in apparatus accident frequency with this change, or has there been a drop in severity of the accidents. Have vehicle data recorders been recording accidents at top speed of the vehicles or are they all under the top speed. Following this logic and limiting the TOP speeds of vehicles if it was a problem before has this issue solved the problem?

I think this hurts more than it potentially helps. I am local to Northwest Ohio, which is all flat, squared off county roads with wide 2 lane non-divided state routes, divided 4 lane highways and Ohio Turnpike (80/90) US Route 75 and 475. Now yes these are all examples of local to us roads, but with staffing and location of staffed departments and geographic location, we do alot of responding on these main throughfares and are traveling at less than the speed limit.

I believe it would be beneficial for the committee to look at the actual data, and what the point of the speed limit was brought around to curb. Im also asking or pushing for an common sense increase to the limit rather than doing away with the limit completely.

Thank you - Trevor Ashbaugh

Submitter Information Verification

Submitter Full Name: Trevor Ashbaugh

Organization:

Affiliation: Napoleon Fire & Rescue, Springfield Twp. Fire Department

Street Address:

City:

State:

Zip:

Submission Date: Mon Aug 25 20:40:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is a safety issue that has been discussed repeatedly by the committee which has re-confirmed the current text. The issue of the danger of rollover or accident has not gone away. The dangers of rollovers or other accidents for larger vehicles, and particularly tankers and aeriels, are significantly greater than cars and smaller vehicles. It is possible for a purchaser to request a deviation from the standard as per the section of this document that addresses exceptions (Statement of Exceptions 7.22) from the requirements of this standard, but the committee does not endorse higher speed vehicles.



Public Input No. 543-NFPA 1900-2025 [Section No. 7.16.3]

7.16.3

If the combined water tank and foam agent tank capacities on the fire apparatus exceed 1250 gal (4732 L), or the GVWR of the vehicle is over 50,000 lb (22,680 kg), the maximum top speed of the apparatus shall not exceed either ~~60 mph~~ 70 mph (95 km 113 km /hr) or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. Or allow local jurisdictions to determine their own governed speed based on the speed limits in their areas

Statement of Problem and Substantiation for Public Input

As noted in the 2009 challenge to this standard by Pierce Manufacturing, Inc., traveling at a speed of 60 mph in a 70 mph speed zone (which are more common than in the past and where the traffic is typically traveling at speeds of 75-80 mph) creates an unsafe situation for the apparatus traveling at this slow speed and for the traffic around them. This causes increased risk of a rear end collision but also increase risk of motor vehicle accidents involving the traffic around them due increased lane changes (sometimes sudden) in order to get around the slow moving vehicle. In the original development of this standard, the NFPA Committee cited the American Trucking Association and the Canadian Trucking Association who reported the role of speed in accidents involving heavy vehicles. However, the "role of speed" was not defined (and I still cannot find a definition). The "role of speed" does not necessarily refer to top end speed. If a vehicle is traveling far below the speed limit and causes an accident, the speed played a role in that accident. Similarly, if a vehicle is traveling 50 mph (under the current governed speed of 60 mph) in a 25 mph speed zone and has an accident, then speed played a role but it was not top end speed, it was speed that was simply too fast for the conditions. Additionally, the ATA has since changed their recommendation. In a May 26, 2023 post to their website found here: <https://www.trucking.org/news-insights/speed-limiters-101>, they stated that they now actively fight against speed limiters being set in the low 60's. The CTA currently recommends speed limiters be set at 65 mph, but their average speed limits are approximately 50-55 mph (80-90 km/h) with the occasional speed limit of 100 km/h (62 mph). So even with their governed speed at what is for us in the United States 65 mph, they are still able to travel with the flow of traffic and not be an impediment to others traveling around them and potentially increase the risk of accidents. The Truck Injury Law Group reports that most accidents with heavy vehicles happen between 35-55 mph and that, while injuries are more severe, accidents are less common at speeds of 55-75 mph (<https://www.truckinginjurylawgroup.com/at-what-speed-do-most-truck-accidents-happen/>). So what is being proposed here is: Either to raise the governed speed recommendation to 70 mph, which will match the highest speed limit in most areas of the country, or allow the local jurisdictions to determine their own governed speed based on the speed limits in their areas (as was proposed by Pierce in 2009). We would also point out that many advancements have been made in the manufacturing of fire apparatus since the early 2000's. Many apparatus now come with rollover protection and more advanced braking systems such as Jake brakes and Telma braking systems (the Durham Fire Department's new Rescue 1 has both). Below is more information to support this request to change the standard:

Safety Through Speed Variability Alignment

The Solomon Curve—a foundational traffic safety model—demonstrates that the risk of collisions increases when a vehicle's speed deviates significantly from the average traffic flow. It shows that the risk of accidents increases significantly when there's a large discrepancy between the speeds of vehicles on the road. Specifically, the curve suggests that when vehicles travel at significantly different speeds—either much faster or slower than the average flow of traffic—the likelihood of a crash increases, particularly in cases where one vehicle is overtaking another. A study by the National Highway Traffic Safety Administration (NHTSA) revealed that speed differentials are a contributing factor to approximately 25% of all fatal crashes, with the greatest risk occurring when faster vehicles attempt to overtake slower vehicles on highways with posted speed limits. This reinforces the argument for allowing emergency vehicles to travel at the posted speed limit, ensuring they blend into the flow of traffic and reduce speed differentials, ultimately enhancing safety for both responders and the general public.

For crash data specifically related to vehicles traveling too slowly on highways, the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA) provide some insight. While direct references to slow-moving vehicles may not be always clearly isolated in crash reports, several studies highlight how vehicles traveling at much lower speeds than surrounding traffic can lead to dangerous conditions:

1. NHTSA Fatality Analysis Reporting System (FARS): According to the FARS database, "slow-moving vehicles" are often cited as contributing factors in accidents, particularly when they block the flow of faster-moving traffic. Drivers may become frustrated, leading to dangerous passing attempts or rear-end collisions when slower vehicles impede traffic flow on high-speed roads (NHTSA, 2020). These slow vehicles create dangerous speed differentials that increase crash risk, especially on highways where the speed difference between vehicles is more pronounced.
2. Federal Highway Administration (FHWA) Study on Congestion and Speeding: A study by the FHWA found that slower-moving vehicles contribute significantly to congestion-related crashes, especially in cases where slower vehicles "impede the normal flow of traffic" on highways. This can create a situation where faster drivers are forced to take evasive actions like quick lane changes or sudden braking, increasing the likelihood of a collision. Slow-moving vehicles, particularly those traveling under the minimum speed limit, significantly raise the risk of rear-end crashes (FHWA, 2018).

These sources help illustrate how vehicles traveling too slowly on high-speed roads contribute to accidents, aligning with the general principles of speed differential dangers as described in the Solomon Curve. For direct references to NHTSA crash data, you can consult the FARS database.

In practice, a rescue truck that travels at or near the posted limit blends into the traffic stream, reducing speed differentials and minimizing chances of sudden lane changes or overtaking maneuvers from other drivers. This natural "speed alignment" improves overall traffic harmony and safety during high stress emergency responses. Additionally, a slower moving vehicle can contribute to lane changes and added maneuvers from other motorists that could contribute to collisions that may or may not involve the first responders.

Source: National Highway Traffic Safety Administration (NHTSA). "Traffic Safety Facts 2019: A Compilation of Motor Vehicle Crash Data." U.S. Department of Transportation. (NHTSA, 2020). NHTSA Traffic Safety Facts

2. Handbooks and Practice Encourage Flow-Adaptive Speed

The North Carolina Driver Handbook mandates that civilian drivers move over or slow down near stopped emergency vehicles—but it also

emphasizes maintaining "a reduced, safe speed" only when unable to change lane. This guidance implies that emergency vehicles, which have right of way, should be allowed to proceed at normal (or even higher) speeds to maintain flow and minimize interruptions. Restricting rescue trucks to sub posted speeds could result in abrupt deceleration, increasing the hazard to responders and the public and disrupting traffic behavior.

Additionally The North Carolina Driver Handbook states

"Traffic moves much faster on the interstate than on an ordinary highway. It is dangerous to drive very far below the posted speed limit. Follow the flow of traffic if you can do so without speeding. Crashes are more likely to occur when a vehicle moves significantly slower than the flow of the traffic."

As well as,

"When entering the interstate, use the acceleration lane until your vehicle's speed matches that of the other traffic and then merge safely"

Neither of these driving requirements can be met when the Vehicle in question is governed below the posted speed limit.

Source: The North Carolina Driver Handbook, Page 64, Chapter 4 Your Driving.

Thank you for your consideration,
Shawn Field
Division Chief
Durham Fire Department
Durham, NC

Submitter Information Verification

Submitter Full Name: Shawn Field

Organization: Durham Fire Department

Affiliation: Durham Fire Department Durham, NC

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 14:45:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is a safety issue that has been discussed repeatedly by the committee which has re-confirmed the current text. The issue of the danger of rollover or accident has not gone away. The dangers of rollovers or other accidents for larger vehicles, and particularly tankers and aeriels, are significantly greater than cars and smaller vehicles. It is possible for a purchaser to request a deviation from the standard as per the section of this document that addresses exceptions (Statement of Exceptions 7.22) from the requirements of this standard, but the committee does not endorse higher speed vehicles.

**Public Input No. 67-NFPA 1900-2025 [Section No. 7.16.3]****7.16.3**

If the combined water tank and foam agent tank capacities on the fire apparatus exceed 1250 gal (4732 L), or the GVWR of the vehicle is over 50,000 lb (22,680 kg), the maximum top speed of the apparatus shall not exceed either 60 mph (95 km/hr) or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower.

[Delete section 7.16.3](#)

Statement of Problem and Substantiation for Public Input

Section 7.16.2 states that the maximum top speed of a vehicle with a GVWR over 33,000 lbs. shall not exceed 68 mph. An example vehicle for this would be a pumper. Currently, section 7.16.3 states that the maximum top speed of a vehicle with a GVWR over 50,000 lbs. shall not exceed 60 mph. An example vehicle for this would be a tractor drawn aerial (TDA). There are fire departments in cities where the TDA is the first vehicle in an emergency/non-emergency convoy; followed by one or two pumpers (configuration based upon SOG's and street access/size). These same departments have multiple freeways and interstates that these apparatus utilize. Most of these freeways have a maximum speed limit of 65 mph; with the flow of traffic much higher at times. A vehicle traveling slower than the posted speed limit creates a hazard for other vehicles. Also, a slower vehicle at the head of a convoy slows down the apparatus that are following. Some other affected vehicle would be USAR and HAZMAT rescue body style vehicles. Some of these apparatus are deployed to major disasters across the U.S. and have to travel on freeways and interstates with much higher posted speed limits. By removing this section and keeping the maximum top speed for fire apparatus with a GVWR over 33,000 lbs. at 68 mph, it will reduce the impact on fire department convoy response designs and lessen the hazard of a slower speed vehicle traveling on a freeway or interstate that has a higher posted speed limit.

Submitter Information Verification

Submitter Full Name: Michael Flores

Organization: Los Angeles Fire Department

Street Address:

City:

State:

Zip:

Submittal Date: Sun Jan 26 12:40:21 EST 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is a safety issue that has been discussed repeatedly by the committee which has re-confirmed the current text. The issue of the danger of rollover or accident has not gone away. The dangers of rollovers or other accidents for larger vehicles, and particularly tankers and aerals, are significantly greater than cars and smaller vehicles. It is possible for a purchaser to request a deviation from the standard as per the section of this document that addresses exceptions (Statement of Exceptions 7.22) from the requirements of this standard, but the committee does not endorse higher speed vehicles.

**Public Input No. 333-NFPA 1900-2025 [Section No. 7.19]****7.19– Tests on Delivery. 7.19.1 * Wildland Fire Apparatus .**

If acceptance tests on wildland fire apparatus are to be performed at the point of delivery, they shall not be performed in a manner that requires the apparatus or a component to operate outside its designed operating range.

Familiarization.**7.19.2.2 –**

Acceptance tests shall not be performed in a manner that requires the apparatus or a component to operate outside its designed operating range

7.19.2 – Structural Fire Apparatus.

Sections 7.19.2.1 through 7.19.2.7.2.2 shall apply to structural fire apparatus only.

7.19.2.1 * –

If acceptance tests are required at the point of delivery, the purchaser shall specify the details of the tests to be performed.

1 .

The authority having jurisdiction shall appoint designated persons to receive apparatus familiarization .

7.19.2.3 –

Aerial device stability tests shall not be run other than at the manufacturer's facility.

7.19.2.4 –

An official of the company that manufactures the apparatus and, if applicable, the aerial device shall designate in writing who is qualified to provide operational instructions and apparatus familiarization to the final customer.

7.19.2.5 –

Programs shall be in place for training, proficiency testing, and performance verification of the qualified person in 7.19.2.4 .

7.19.2.6 –

The authority having jurisdiction shall appoint a person a familiarization instructor (s) to receive provide operational instructions and apparatus familiarization .

7.19.2.7 –

Operational instructions shall be provided on new apparatus by the contractor in accordance with 7.19.2.7.1 through 7.19.2.7.2.2 .
to the designated persons.

7.19.2.7.1

Review with the authorized person(s) as defined by the authority having jurisdiction all service, maintenance, operational, and instruction manuals, including the entire vehicle, chassis, major components, and auxiliary equipment provided.—

7.19.2.7.2 –

Familiarization and demonstration of the vehicle shall be by a competent and qualified person (s) as defined in 3.3.233 of this standard.

7.19.2.2 .

Programs shall be in place for training, proficiency testing, and performance verification of familiarization instructors.

7.2 19.4 – 3

The familiarization and demonstration shall not include driving training or any firefighting training operations.

7.19.**2.7.2.2–****4**

Familiarization of the vehicle shall include the

following:

- (1) How to locate gauges or indicators and check all fluid levels and operational issues of the vehicle
- (2) How to tilt the chassis cab or hood assembly for access to the engine, fire pump, or aerial control, or any other device to allow access to fluids or for required maintenance
- (3) Interior cab controls, instruments, mirrors, safety devices or alarms, brake operations, transmission control, pump controls, exhaust regeneration (if provided), seat adjustments, warning light engagement, and other operational equipment
- (4) If the apparatus is provided with a fire pump system, the following minimum instructions:
 - (5) Setting of parking brake, proper transmission gear, and fire pump engagement operations
 - (6) Throttle control
 - (7) Primer and tank-to-pump operation
 - (8) Use of pressure control devices
 - (9) Tank refilling operations
 - (10) Proper operation of discharge controls
 - (11) Proper shutdown and draining of system
- (12) If the apparatus is provided with a generator, the following minimum instructions:
 - (13) Proper engagement if driven by the chassis
 - (14) Startup, operation, and shutdown of generator
 - (15) Monitoring of controls and instruments
- (16) If the apparatus is provided with a foam system, the following minimum instructions:
 - (17) Startup, operation, and shutdown of foam system
 - (18) Setting of foam percentages and other operational settings
 - (19) Proper flushing and draining of the system
- (20) If the apparatus is provided with a water tower or aerial device, the following minimum instructions:
 - (21) Positioning and locating the vehicle for safe operations
 - (22) Chassis parking brakes and engagement of hydraulic system
 - (23) Deployment of stabilization devices and use of ground pads
 - (24) Operation of elevation, extension, and rotation of the aerial device
 - (25) Operation of waterway, nozzle, and other firefighting devices of aerial device
 - (26) Operation and use of breathing air system
 - (27) Specific aerial device maintenance and service areas for operators
 - (28) Shutdown and return to service operations
 - (29) Operation of tip controls and platform controls
 - (30) General familiarization and demonstration of aerial device
 - (31) Review of all safety devices, interlocks, and operational hazards

topics in the 7.21.4 General Operation Manual.

Statement of Problem and Substantiation for Public Input

The NFPA 1900 committee will never be able to keep up with the correct list of topics for this section, especially as apparatus evolve into

alternate fuels and electrification. Manufacturers include topics in the operator manual because they are important for the operator to know. The operator manual is therefore the perfect outline for any familiarization program.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 338-NFPA 1900-2025 [Sections A.7.19.1, A.7.19.2.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Affiliation: Admin task group for NFPA 1900/1910
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 30 19:29:49 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: [FR-403-NFPA 1900-2026](#)
Statement: The committee will never be able to keep up with the correct list of topics for this section, especially as apparatus evolve into alternate fuels and electrification. Manufacturers include topics in the operator manual because they are important for the operator to know. The operator manual is therefore the perfect outline for any familiarization program.

**Public Input No. 141-NFPA 1900-2025 [Section No. 7.19.2.7.1]****7.19.2.7.1**

~~Review~~ The contractor shall review with the authorized person(s) as defined by the authority having jurisdiction all service, maintenance, operational, and instruction manuals, including the entire vehicle, chassis, major components, and auxiliary equipment provided.

Statement of Problem and Substantiation for Public Input

There was no "shall" in this section.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 15:25:18 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-403-NFPA 1900-2026](#)

Statement: The committee will never be able to keep up with the correct list of topics for this section, especially as apparatus evolve into alternate fuels and electrification. Manufacturers include topics in the operator manual because they are important for the operator to know. The operator manual is therefore the perfect outline for any familiarization program.



Public Input No. 334-NFPA 1900-2025 [Section No. 7.21]

7.

21 Data

21 Data Required of the Contractor.

7.21.

1 Fire Apparatus Documentation.

1 Major Components

7.21.1.1

The contractor shall supply, at the time of delivery, the following major component information:

- The manufacturer's record of apparatus construction details, including the following information:
 - (1) Owner's name and address
 - (2) Apparatus manufacturer, model, and serial number
 - (3) Chassis make, model, and serial number
 - (4) GAWR of front and rear axles and GVWR
 - (5) Front tire size and total rated capacity in pounds (kilograms)
 - (6) Rear tire size and total rated capacity in pounds (kilograms)
 - (7) Chassis weight distribution in pounds (kilograms) with water and manufacturer-mounted equipment (front and rear)
 - (8) For each engine, make, model, serial number, rated horsepower and related speed, and governed speed; and if so equipped, engine transmission PTO(s) make, model, and gear ratio
 - (9) Type of fuel and fuel tank capacity
 - (10) Electrical system voltage and alternator output in amps
 - (11) Battery make, model, and capacity in cold cranking amps (CCA)
 - (12) Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s) make, model, and gear ratio
 - (13) Ratios of all driving axles
 - (14) Maximum governed road speed
 - (15) For each pump, make, model, rated capacity in gallons per minute (liters per minute where applicable), maximum discharge pressure capability rating, and serial number
 - (16) For each pump, transmission make, model, serial number, and gear ratio
 - (17) Auxiliary pump make, model, rated capacity in gallons per minute (liters per minute where applicable), and serial number
 - (18) Water tank certified capacity in gallons or liters
 - (19) Foam tank (if provided) certified capacity in gallons (liters)
 - (20) Aerial device (if provided) type, rated vertical height in feet (meters), rated horizontal reach in feet (meters), and rated capacity in pounds (kilograms)
 - (21) Paint manufacturer and paint number(s)
 - (22) Company name and signature of responsible company representative
 - (23) Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall fire apparatus (with the water tank full but without personnel, equipment, and hose)
- Certification of compliance of the optical warning system (see 10.7.17)
- Siren manufacturer's certification of the siren (see 10.8.1.1)
- Written load analysis and results of the electrical system performance tests (see 10.13.1 and Section 10.14)
- Certification of slip resistance of all stepping, standing, and walking surfaces (see 12.6.4.5)
- If the apparatus has a fire pump or a wildland fire pump, the pump manufacturer's certification of suction capability (see 13.2.4.1 or 15.2.4.1)
- If the apparatus is equipped with a fire pump or a wildland fire pump and special conditions are specified by the purchaser, the pump manufacturer's certification of suction capacity under the special conditions (see 13.2.4.2 or 15.2.4.2)
- If the apparatus has a fire pump, or a wildland fire pump a copy of the apparatus manufacturer's approval for stationary pumping applications (see 13.3.1 or 15.3.1)
- If the apparatus has a fire pump, the engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum governed speed (see 13.3.2.2)
- If the apparatus has a fire pump or a wildland fire pump, the pump manufacturer's certification of the hydrostatic test (see

~~13.5.2.2 or 15.5.2.2~~

- If the apparatus has a fire pump with a maximum discharge pressure capability rating that exceeds the hydrostatic test pressure of 13.5.2.1, the pump manufacturer's certification of the hydrodynamic test
- If the apparatus has a fire pump or a wildland fire pump, the certification of inspection and test for the fire pump (~~see 13.13.1.1.5 or 13.13.1.2.4 or 15.13.1.2.4, as applicable~~)
- If the apparatus is equipped with an auxiliary pump, the apparatus manufacturer's certification of the hydrostatic test (~~see Section 14.13~~)
- When the apparatus is equipped with a water tank, the certification of water tank capacity (~~see Section 17.6~~)
- If the apparatus has an aerial device, the certification of inspection and test for the aerial device (~~see Section 20.32~~)
- If the apparatus has an aerial device, all the technical information required for inspections to comply with NFPA 1910
- If the apparatus has a foam proportioning system, the foam proportioning system manufacturer's certification of accuracy (~~see 18.10.4.2~~) and the final installer's certification the foam proportioning system meets this standard (~~see 18.11.2~~)
- If the system has a CAFS, the documentation of the manufacturer's predelivery tests (~~see Section 19.9~~)
- If the apparatus has a line voltage power source, the certification of the test for the power source (~~see 21.15.7.2~~)
- If the apparatus is equipped with an air system, air tank certificates (~~see 23.5.1.2~~), the SCBA fill station certification (~~see 23.9.6~~), and the results of the testing of the air system installation (~~see 23.14.5 and 23.15.4~~)
- For wildland fire apparatus, or structural apparatus without stability control, certification of vehicle side slope stability, including the weight distribution assumed for the calculations or as loaded on the vehicle for the tilt table test (~~see 7.14.3~~)
- Any other required manufacturer test data or reports

7.21.2 – Operations and Service Documentation.

7.21.2.1 –

The contractor shall deliver with the fire apparatus complete operation and service documentation covering the completed apparatus as delivered and accepted.

7.21.2.2 –

The documentation shall address at least the inspection, service, and operations of the fire apparatus and all major components thereof.

7.21.2.3 –

The contractor shall also provide the following documentation for the entire apparatus and each major operating system or major component of the apparatus:

- (1) ~~Manufacturer's name and address~~
- (2) ~~Country of manufacture~~
- (3) ~~Source for service and technical information~~
- (4) ~~Parts replacement information~~
- (5) ~~Descriptions, specifications, and ratings of the chassis, pump (if applicable), and aerial device (if applicable)~~
- (6) ~~Wiring diagrams for low-voltage and line-voltage systems to include the following information:~~
 - (7) ~~Pictorial representations of circuit logic for all electrical components and wiring~~
 - (8) ~~Circuit identification~~
 - (9) ~~Connector pin identification~~
 - (10) ~~Zone location of electrical components~~
 - (11) ~~Safety interlocks~~
 - (12) ~~Alternator–battery power distribution circuits~~
 - (13) ~~Input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems~~
- (14) ~~Lubrication charts~~
- (15) ~~Operating instructions for the chassis, any major components such as a pump or aerial device, and any auxiliary systems~~
- (16) ~~Precautions related to multiple configurations of aerial devices, if applicable~~
- (17) ~~Instructions regarding the frequency and procedure for recommended maintenance~~
- (18) ~~Overall apparatus operating instructions~~
- (19) ~~Safety considerations~~
- (20) ~~Limitations of use~~
- (21) ~~Inspection procedures~~
- (22) ~~Recommended service procedures~~
- (23) ~~Troubleshooting guide~~
- (24) ~~Apparatus body, chassis, and other component manufacturer's warranties~~
- (25) ~~Special data required by this standard~~
- (26) ~~A safety data sheet (SDS) for any fluid that is specified for use on the apparatus~~
- (27) ~~For structural fire apparatus, one copy of the latest edition of FAMA's *Fire Apparatus Safety Guide*~~

7.21.2.4 * –

The contractor shall deliver with the apparatus all manufacturers' operations and service documents supplied with components and equipment that are installed or supplied by the contractor.

7.21.2.5 –

Apparatus operator manuals shall be publicly accessible on the manufacturer's website.

7.21.2.6 –

Table 7.21.1.1 Component Data

Category	Item				
Vehicle	Governed Speed		mph		Kph
Chassis	Make				
	Model				
Engine	Make				
	Model				
	HP		HP		KW
	Torque		Ft-Lb		N-m
Transmission	Make				
	Model				
Fuel Tank	Fuel Type				
	Capacity		Gal		L
DEF Tank	Capacity		Gal		L

Front Axle	Drive Ratio				
Rear Axle	Drive Ratio				
Fire Pump (Main)	Make				
	Model				
	Transmission Ratio				
Fire Pump (Aux)	Make				
	Model				
	Transmission Ratio				
Tank, Water	Capacity		Gal		L
Tank, Foam 1	Capacity		Gal		L
Tank, Foam 2	Capacity		Gal		L

7.21.1.2

The contractor shall supply, at the time of delivery, the following major component serial number information:

Table 7.21.1.2 Serial Numbers

Item	SN
Vehicle VIN	
Engine	
Transmission	
Fire Pump	
Front Axle	
Rear Axle 1	
Rear Axle 2	
TDA Axle	
Aerial Device	

7.21.1.3

The contractor shall supply, at the time of delivery, the following paint information:

Table 7.21.1.3 Paint Information

Cab	Paint Manufacturer	
	Paint Type	
	Paint Color 1	
	Paint Color 1	
Body	Paint Manufacturer	
	Paint Type	
	Paint Color 1	
	Paint Color 1	
Aerial Device	Paint Manufacturer	
	Paint Type	
	Paint Color 1	
	Paint Color 1	

7.21.2 Delivery Weight

The contractor shall supply the vehicle weights as specific in table 7.21.2.3

7.21.2.1

The vehicle shall be measured with fuel and DEF tanks full and the driver in the seat.

7.21.2.2

Weights shall not include anything that is not permanently mounted on or to the apparatus such as occupants other than the driver, loose equipment, or hose.

7.21.2.3

Weights shall be obtained from certified scale(s).

TABLE 7.21.2.3 Scale Weights

		Lbs	Kg
--	--	-----	----

Empty	Front Axle		
	Rear Axle 1		
	Rear Axle 2		
	TDA Axle		
	Total		
Water and Foam Tanks Full	Front Axle		
	Rear Axle 1		
	Rear Axle 2		
	TDA Axle		
	Total		

7.21.3 Certifications and Test Documents

The following is a list of sections requiring documentation of certifications or testing to be supplied with the delivery of the apparatus.

Table 7.21.3 Test Results

	<u>Certification or Test Result</u>	<u>Section Reference</u>
General	Statement of Exceptions	7.22
Chassis	Vehicle Stability Certification	9.4.3.2
Low Voltage	Optical Warning System Certification	10.7.17
	Siren Certification	10.8.1.1
	IC Engine Starting Reserve Capacity Test	10.13.3.2
	IC Engine Alternator Performance Test at Idle	10.13.3.3
	Alternator Performance Test at Full Load	10.13.3.4
	IC Engine Low Voltage Alarm Test	10.13.4
	Low Voltage Battery Charger/Conditioner Test.	10.13.5
	Electrical Load Analysis	10.14
Body	Stepping Surface Slip Resistance	12.6.4.5
Fire Pump	Pump Suction Capability	13.2.4.1
	Pump Suction Special Conditions	13.2.4.2
	Pump Hydrostatic Test	13.5.2.2
	Pump Hydrodynamic Test (if applicable)	13.5.4
	Pump System Certification [≥ 750 gpm (3000 L/min)]	13.13.1.1
	Pump System Certification [< 750 gpm (3000 L/min)]	13.13.1.2
Auxiliary Pump	Pump Hydrostatic Test	14.13
Wildland Pump	Pump Suction Capability	15.2.4.1
	Pump Suction Special Conditions	15.2.4.2
	Pump Hydrostatic Test	15.5.2.2
	Pump System Certification	15.13.1.2.4
UHP Pump	Required Testing	16.12
Tank	Water Tank Capacity	17.6
Foam System	Foam System Accuracy	18.10.4.2
	Foam System Installation Certification	18.11.2
	CAF System Test	19.9
Aerial Device	Aerial Test	20.32
Line Voltage	Line Voltage Dielectric Withstand Test	21.15.2
	Line Voltage Power Source Test	21.15.7
Breathing Air	Diagrams and Drawings	23.2.11.6.2
	Breathing Air Documentation	23.2.12
	Breathing Air Tank Certificates	23.5.1.2
	SCBA Fill Station Certification	23.9.6
	Pressure Test	23.14.2
	Compressor or Purification System Test	23.14.3
	Breathing Air Quality	23.14.4

Utility Air	Utility Air System Test	23.15.4
-------------	-------------------------	---------

7.21.4 General Operation Manual(s)**7.21.4.1**

Operation and Manual(s) covering the following topics shall be publicly accessible on the manufacturer's website.

- (1) Apparatus manufacturer name and address
- (2) Customer service contact information
- (3) Parts replacement contact information
- (4) Safety instructions and warnings
- (5) Control and instrumentation description
- (6) Pre-trip or shift-change inspection instructions
- (7) Operating instructions
- (8) * Water fording capabilities
- (9) Periodic service and maintenance tables
- (10) Fluids specifications table
- (11) Lubrication chart
- (12) Technical information needed to perform NFPA 1910 certification testing

7.21.4.2

The apparatus shall include one or more of the following:

- (1) The applicable
apparatus operator manual(s)
 - (1) General Operation Manual stored on the apparatus and protected in a permanent, dedicated, accessible location
 - (2) The
applicable apparatus operator manual
 - (1) General Operation Manual (s) available to be viewed on the apparatus on an accessible electronic display
 - (2) A means of accessing an Internet link via a QR code or other means to
the applicable operator manual
 - (1) view the General Operation Manual (s)
for viewing
 - (1) on a computer, tablet, or smart phone

7.21.**2.7**

The apparatus operator manual shall specify the quantity and type of the following fluids used in the vehicle:

- (1) Engine oil
- (2) Engine coolant
- (3) Chassis transmission fluid
- (4) Pump transmission lubrication fluid
- (5) Pump priming system fluid, if applicable
- (6) Drive axle(s) lubrication fluid
- (7) Air conditioning refrigerant
- (8) Air conditioning lubrication oil
- (9) Power steering fluid
- (10) Cab tilt mechanism fluid
- (11) Transfer case fluid
- (12) Equipment rack fluid
- (13) CAFS air compressor system lubricant
- (14) Generator system lubricant

7.21.2.8

The operator manual(s) shall specify all technical information needed to perform NFPA 1910 certification testing as described in 7.21.1(16).

7.21.2.9 *

The operator manual shall address the water fording capabilities of the vehicle

5 Apparatus-Specific Operation Documentation

7.21.5.1

Operation documentation for the major components listed in Table 7.21.1.2 shall be provided in PDF format.

7.21.5.2

Safety data sheet (SDS) for any fluid that is specified for use on the apparatus shall be provided in PDF format

7.21.6 Electrical System Documentation

Service information for diagnosis and repair of low voltage and line voltage electrical systems shall be provided in PDF format including the following:

- (1) Pictorial representations of circuit logic for all electrical components and wiring
- (2) Circuit identification
- (3) Connector pin identification
- (4) Zone location of electrical components
- (5) Safety interlocks
- (6) Alternator–battery power distribution circuits
- (7) *Input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems

7.21.7 FAMA Safety Guide

One copy of the latest edition of FAMA's *Fire Apparatus Safety Guide* shall be delivered with every apparatus .

Statement of Problem and Substantiation for Public Input

This reorganization of the deliverable documentation eliminates unnecessary details that are included elsewhere (such as on the required FMVSS labels) and other readily available information on the internet. It still includes the checklist of test results that need to be supplied. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 339-NFPA 1900-2025 [Section No. A.7.21.2.3(6)(g)]	
Public Input No. 340-NFPA 1900-2025 [Section No. A.7.21.2.4]	
Public Input No. 341-NFPA 1900-2025 [Section No. A.7.21.2.9]	
Public Input No. 339-NFPA 1900-2025 [Section No. A.7.21.2.3(6)(g)]	
Public Input No. 340-NFPA 1900-2025 [Section No. A.7.21.2.4]	
Public Input No. 341-NFPA 1900-2025 [Section No. A.7.21.2.9]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task grop for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 30 19:55:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-404-NFPA 1900-2026

Statement: This reorganization of the deliverable documentation eliminates unnecessary details that are included elsewhere (such as on the required FMVSS labels) and other readily available information on the internet. It still includes the checklist of test results that need to be supplied.



Public Input No. 142-NFPA 1900-2025 [Section No. 7.21.1]

7.21.1 Fire Apparatus Documentation.

The contractor shall supply, at the time of delivery, the following information:

(1) The manufacturer's record of apparatus construction details, including the following information:

- (2) Owner's name and address
- (3) Apparatus manufacturer, model, and serial number
- (4) Chassis make, model, and serial number
- (5) GAWR of front and rear axles and GVWR
- (6) Front tire size and total rated capacity in pounds (kilograms)
- (7) Rear tire size and total rated capacity in pounds (kilograms)
- (8) Chassis weight distribution in pounds (kilograms) with water and manufacturer-mounted equipment (front and rear)
- (9) For each engine

7

- (a) : make, model, serial number, rated horsepower and related speed, and governed speed; and if so equipped, engine transmission PTO(s) make, model, and gear ratio
- (b) Type of fuel and fuel tank capacity
- (c) Electrical system voltage and alternator output in amps
- (d) Battery make, model, and capacity in cold cranking amps (CCA)
- (e) Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s) make, model, and gear ratio
- (f) Ratios of all driving axles
- (g) Maximum governed road speed
- (h) For each pump

7

- (a) : make, model, rated capacity in gallons per minute (liters per minute where applicable), maximum discharge pressure capability rating, and serial number
- (b) For each pump

7

- (a) : transmission make, model, serial number, and gear ratio
- (b) Auxiliary pump make, model, rated capacity in gallons per minute (liters per minute where applicable), and serial number
- (c) Water tank certified capacity in gallons or liters
- (d) Foam tank (if provided) certified capacity in gallons (liters)
- (e) Aerial device (if provided) type, rated vertical height in feet (meters), rated horizontal reach in feet (meters), and rated capacity in pounds (kilograms)
- (f) Paint manufacturer and paint number(s)
- (g) Company name and signature of responsible company representative
- (h) Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall fire apparatus (with the water tank full but without personnel, equipment, and hose)

(10) Certification of compliance of the optical warning system (*see 10.7.17*)

(11) Siren manufacturer's certification of the siren (*see 10.8.1.1*)

(12) Written load analysis and results of the electrical system performance tests (*see 10.13.1 and Section 10.14*)

(13) Certification of slip resistance of all stepping, standing, and walking surfaces (*see 12.6.4.5*)

(14) If the apparatus has a fire pump or a wildland fire pump, the pump manufacturer's certification of suction capability (*see 13.2.4.1 or 15.2.4.1*)

(15) If the apparatus is equipped with a fire pump or a wildland fire pump and special conditions are specified by the purchaser, the pump manufacturer's certification of suction capacity under the special conditions (*see 13.2.4.2 or 15.2.4.2*)

(16) If the apparatus has a fire pump or a wildland fire pump, a copy of the apparatus manufacturer's approval for stationary pumping applications (*see 13.3.1 or 15.3.1*)

(17) If the apparatus has a fire pump, the engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum governed speed (*see 13.3.2.2*)

(18) If the apparatus has a fire pump or a wildland fire pump, the pump manufacturer's certification of the hydrostatic test (*see 13.5.2.2 or 15.5.2.2*)

(19) If the apparatus has a fire pump with a maximum discharge pressure capability rating that exceeds the hydrostatic test pressure of 13.5.2.1, the pump manufacturer's certification of the hydrodynamic test

(20) If the apparatus has a fire pump or a wildland fire pump, the certification of inspection and test for the fire pump (*see 13.13.1.1.5 or 13.13.1.2.4 or 15.13.1.2.4, as applicable*)

(21) If the apparatus has an ultra-high pressure pump, certification of the pump integrity test (*see Section 16.4.4*) and the

apparatus manufacturer certification of the required tests (see Section 16.12.1.1).

- (22) If the apparatus is equipped with an auxiliary pump, the apparatus manufacturer's certification of the hydrostatic test (see Section 14.13)
- (23) When the apparatus is equipped with a water tank, the certification of water tank capacity (see Section 17.6)
- (24) If the apparatus has an aerial device, the certification of inspection and test for the aerial device (see Section 20.32)
- (25) If the apparatus has an aerial device, all the technical information required for inspections to comply with NFPA 1910
- (26) If the apparatus has a foam proportioning system, the foam proportioning system manufacturer's certification of accuracy (see 18.10.4.2) and the final installer's certification the foam proportioning system meets this standard (see 18.11.2)
- (27) If the system has a CAFS, the documentation of the manufacturer's predelivery tests (see Section 19.9)
- (28) If the apparatus has a line voltage power source, the certification of the test for the power source (see 21.15.7.2)
- (29) If the apparatus is equipped with an air system, air tank certificates (see 23.5.1.2), the SCBA fill station certification (see 23.9.6), and the results of the testing of the air system installation (see 23.14.5 and 23.15.4)
- (30) For wildland fire apparatus, or structural apparatus without stability control, certification of vehicle side slope stability, including the weight distribution assumed for the calculations or as loaded on the vehicle for the tilt table test (see 7.14.3)
- (31) Any other required manufacturer test data or reports

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
7.21.1.docx	Updated 7.21.1	

Statement of Problem and Substantiation for Public Input

Correct punctuation of lists. Add certifications of UHP pumps.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 339-NFPA 1900-2025 [Section No. A.7.21.2.3(6)(g)]	
Public Input No. 340-NFPA 1900-2025 [Section No. A.7.21.2.4]	
Public Input No. 341-NFPA 1900-2025 [Section No. A.7.21.2.9]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Mon May 12 15:27:24 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-404-NFPA 1900-2026

Statement: This reorganization of the deliverable documentation eliminates unnecessary details that are included elsewhere (such as on the required FMVSS labels) and other readily available information on the internet. It still includes the checklist of test results that need to be supplied.

**Public Input No. 143-NFPA 1900-2025 [Section No. 7.22]****7.22* Statement of Exceptions.**

The final-stage manufacturer shall deliver with the fire apparatus either a certification that the apparatus fully complies with all requirements of chapters 7 through 46 - 27 , or, alternatively, a Statement of Exceptions specifically describing each aspect of the completed apparatus that is not fully compliant with the requirements of chapters 7 through 46 - 27 at the time of delivery.

7.22.1

The Statement of Exceptions shall contain, for each noncompliant aspect of the apparatus or missing required item, the following information:

- (1) A separate specification of the section of the applicable standard for which compliance is lacking
- (2) A description of the particular aspect of the apparatus that is not in compliance therewith or required equipment that is missing
- (3) A description of the further changes or modifications to the delivered apparatus that must be completed to achieve full compliance
- (4) Identification of the entity that will be responsible for making the necessary postdelivery changes or modifications or for supplying and installing any missing required equipment to the apparatus to achieve full compliance with chapters 7 through 46 - 27

7.22.2

Prior to, or at the time of, delivery of the apparatus, the Statement of Exceptions shall be signed by an authorized agent of the entity responsible for final assembly of the apparatus and by an authorized agent of the purchasing entity, indicating mutual understanding and agreement between the parties regarding the substance thereof.

Statement of Problem and Substantiation for Public Input

Correct chapter numbers. Before document consolidation, these references were to "this document."

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 16:10:09 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-202-NFPA 1900-2026](#)

Statement: These changes are being made in order to update to the correct chapter numbers.

**Public Input No. 6-NFPA 1900-2024 [Section No. 7.22]****7.22* Statement of Exceptions.**

The final-stage manufacturer shall deliver with the fire apparatus either a certification that the apparatus fully complies with all requirements of chapters 7 through 46 - 12 plus chapter requirements by apparatus type (Table 7.3.1) or, alternatively, a Statement of Exceptions specifically describing each aspect of the completed apparatus that is not fully compliant with the requirements of chapters 7 through 46 -~~at~~ 12 plus chapter requirements by apparatus type (Table 7.3.1) at the time of delivery.

7.22.1

The Statement of Exceptions shall contain, for each noncompliant aspect of the apparatus or missing required item, the following information:

- (1) A separate specification of the section of the applicable standard for which compliance is lacking
- (2) A description of the particular aspect of the apparatus that is not in compliance therewith or required equipment that is missing
- (3) A description of the further changes or modifications to the delivered apparatus that must be completed to achieve full compliance
- (4) Identification of the entity that will be responsible for making the necessary postdelivery changes or modifications or for supplying and installing any missing required equipment to the apparatus to achieve full compliance with chapters 7 through 46 12 plus chapter requirements by apparatus type (Table 7.3.1).

7.22.2

Prior to, or at the time of, delivery of the apparatus, the Statement of Exceptions shall be signed by an authorized agent of the entity responsible for final assembly of the apparatus and by an authorized agent of the purchasing entity, indicating mutual understanding and agreement between the parties regarding the substance thereof.

Statement of Problem and Substantiation for Public Input

The chapter list of requirements should correspond to the chapters listed in 7.2.1 plus the chapters that are required or specified by apparatus (table 7.3.1)

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 18 16:36:18 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-202-NFPA 1900-2026](#)

Statement: These changes are being made in order to update to the correct chapter numbers.

**Public Input No. 337-NFPA 1900-2025 [Section No. 7.23]****7.23 – EV Engine-Equipped Apparatus.****7.23.1 – Crash Disconnect.**

If the high-voltage EV batteries disconnect in the event of a crash, the crash detection shall not be required to function if the ignition is OFF.

7.23.2 – High-Voltage Battery First Responder Cut Loops.**7.23.2.1 –**

There shall be a first responder cutloop in the battery management circuit that, when cut, will disconnect the charge from the high voltage battery cells.

7.23.2.2 –

Each first responder cut loop shall be protected behind an access door large enough to reach the loop with a standard pair of bolt cutters.

7.23.2.3 –

The access doors shall be located one on each side the apparatus on the pump panel or body as near to the back of the cab as practical.

7.23.2.4 –

The access doors shall be held closed without a latch to allow quick address to the first responder cut loop.

7.23.2.5 –

The first responder cut loop shall have a connector between it and the rest of the battery management circuit that allows the loop to be removed to temporarily disable the high-voltage system.

7.23.2.6 –

Safety sign FAMA58, which identifies the location of the first responder cut loop, shall be located on each access door.

7.23.3 – EV Identification Sign.**7.23.3.1 –**

Identification signs shall be located on each side of the cab and at the rear of the apparatus.

7.23.3.2 –

Each sign shall be in accordance with ISO 17840-4, *Road vehicles — Information for first and second responders — Part 4: Propulsion energy identification*.

7.23.3.2.1 –

The size of the sign for a vehicle Class 5 and below shall be 4.72 in. (120 mm) wide and 3.27 in. (83 mm) high.

7.23.3.2.2 –

The size of the sign for a vehicle Class 6 and above shall be 5.7 in. (145 mm) wide and 4.2 in. (107 mm) high.

7.23.4 –

Safety sign FAMA57, which warns of electrocution hazards, shall be visible to an operator near the charge socket of any apparatus equipped with an EV engine.

Statement of Problem and Substantiation for Public Input

Move this section from 7.23 to chassis chapter 9.5 before Tractor-Drawn Aerial Apparatus.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 336-NFPA 1900-2025 [New Section after 9.3.6.5]	
Public Input No. 336-NFPA 1900-2025 [New Section after 9.3.6.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jul 02 11:37:11 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-203-NFPA 1900-2026](#)

Statement: The committee is moving this text to it's proper location within the standard. There were no changes to the text other than being re-numbered.



Public Input No. 8-NFPA 1900-2024 [Section No. 8.1]

8.1* General.

Apparatus shall meet the minimum requirements in Table 8.1 based on the apparatus type.

Table 8.1 Requirements by Apparatus Type

		GVWR lb (kg)		Pumper	Initial Attack	Mobile Water Supply	Mobile Water Supply w/ pump	Aerial	Quint	Special Service	Mobile Foam	Wildland Fire Suppression	
		GVWR lb (kg)	—	—	—	—	—	—	—	—	10,001– 14,000 lb (4501– 6350 kg)	14,001– 26,000 lb (6351– 11,793 kg)	Over 26,000 lb (Over 11,793 kg)
Pump	Fire pump capacity — GPM (LPM)	750 (3000)	250 (1000)	—	—	—	1000 (4000)	—	750 (3000)	—	—	—	—
	Pump specifications chapter	13	13	—	13	—	13	—	13	13 or 15	13 or 15	13 or 15	13 or 15
Tank	Fire suppression fluid tank capacity water and foam — gallons (liters)	300 (1100)	200 (750)	1000 (4000)	1000 (4000)	—	300 (1100)	—	—	150 (600)	150 (600)	150 (600)	1000 (4000)
	Foam tank capacity — gallons (liters)	—	—	—	—	—	—	—	500 (1900)	—	—	—	—
Equipment storage	Equipment storage compartment capacity — ft ³ (m ³)	40 (1.1)	22 (0.6)	10 (0.3)	10 (0.3)	40 (1.1)	40 (1.1)	120 (3.4)	40 (1.1)	20 (0.5)	50 (1.4)	75 (2.1)	20 (0.5)
Hose Storage	Fire hose storage volume — ft ³ (m ³)	37 (1.0)	17 (0.5)	6 (0.2)	6 (0.2)	—	37 (1.0)	—	37 (1.0)	—	—	—	—
	Fire hose for a protection line 1-½ in. (38 mm) or larger	—	—	—	100 (30)	—	—	—	—	—	—	—	—
	Supply hose storage — ft (m)	—	—	—	—	—	—	—	—	—	—	—	15 (4.5)
	Suction hose storage — ft (m)	—	—	—	—	—	—	—	—	—	—	—	20 (6.0)
Roadside Safety	Wheel chocks — structural	2	2	2	2	2	2	2	2	—	—	—	—
	Wheel chocks — wildland	—	—	—	—	—	—	—	—	2	2	2	2
	Traffic vests	1 per seating position Minimum of 2											
	Traffic cones	5	5	5	5	5	5	5	5	—	—	—	—
	Illuminated traffic warning devices	5	5	5	5	5	5	5	5	5	5	5	5
	Traffic warning triangle kit	—	—	—	—	—	—	—	—	1	1	1	1
	Tire tools (if spare tire is provided)	—	—	—	—	—	—	—	—	1	1	1	1
Aerial Safety	Ladder belts meeting the requirements	—	—	—	—	4	4	—	—	—	—	—	—

		-	-	<u>Pumper</u>	<u>Initial Attack</u>	<u>Mobile Water Supply</u>	<u>Mobile Water Supply w/ pump</u>	<u>Aerial</u>	<u>Quint</u>	<u>Special Service</u>	<u>Mobile Foam</u>	<u>Wildland Fire Suppression</u>
	of NFPA 2500											

Statement of Problem and Substantiation for Public Input

Crew carriers have 9 or more seats and other vehicles might already have traffic vests from a the retired/replaced apparatus. Not everyone will be working in the road at the same time. It is reasonable to require two provided as a minimum with each new apparatus and the purchasing authority can specify more if desired at the time of order. This could also apply only the wildland fire vehicle types while the structural apparatus could continue to require 1 per seating position.

Submitter Information Verification

Submitter Full Name: William Yohn
Organization: US Department of the Interior
Affiliation: NWCG Mobile Equipment Subcommittee
Street Address:
City:
State:
Zip:
Submission Date: Thu Aug 15 13:28:47 EDT 2024
Committee: FDA-AAA

Committee Statement

Resolution: [FR-406-NFPA 1900-2026](#)
Statement: In the row entitled "Traffic Vests" the number "1" needs to be in all column except Wildland Crew Carrier" where the number "2" needs to be.

Crew carriers have 9 or more seats and other vehicles might already have traffic vests from a the retired/replaced apparatus. Not everyone will be working in the road at the same time. It is reasonable to require two provided as a minimum with each new apparatus and the purchasing authority can specify more if desired at the time of order. This could also apply only the wildland fire vehicle types while the structural apparatus could continue to require 1 per seating position.



Public Input No. 9-NFPA 1900-2024 [Section No. 8.1]

8.1* General.

Apparatus shall meet the minimum requirements in Table 8.1 based on the apparatus type.

Table 8.1 Requirements by Apparatus Type

		GVWR lb (kg)		Pumper	Initial Attack	Mobile Water Supply	Mobile Water Supply w/ pump	Aerial	Quint	Special Service	Mobile Foam	Wildland Fire Suppression	
		GVWR lb (kg)	—	—	—	—	—	—	—	—	10,001– 14,000 lb (4501– 6350 kg)	14,001– 26,000 lb (6351– 11,793 kg)	Over 26,000 lb (Over 11,793 kg)
Pump	Fire pump capacity — GPM (LPM)	750 (3000)	250 (1000)	—	—	—	1000 (4000)	—	750 (3000)	—	—	—	—
	Pump specifications chapter	13	13	—	13	—	13	—	13	13 or 15	13 or 15	13 or 15	13 or 15
Tank	Fire suppression fluid tank capacity water and foam — gallons (liters)	300 (1100)	200 (750)	1000 (4000)	1000 (4000)	—	300 (1100)	—	—	150 (600)	150 (600)	150 (600)	1000 (4000)
	Foam tank capacity — gallons (liters)	—	—	—	—	—	—	—	500 (1900)	—	—	—	—
Equipment storage	Equipment storage compartment capacity — ft ³ (m ³)	40 (1.1)	22 (0.6)	10 (0.3)	10 (0.3)	40 (1.1)	40 (1.1)	120 (3.4)	40 (1.1)	20 (0.5)	50 (1.4)	75 (2.1)	20 (0.5)
Hose Storage	Fire hose storage volume — ft ³ (m ³)	37 (1.0)	17 (0.5)	6 (0.2)	6 (0.2)	—	37 (1.0)	—	37 (1.0)	—	—	—	—
	Fire hose for a protection line 1-½ in. (38 mm) or larger	—	—	—	100 (30)	—	—	—	—	—	—	—	—
	Supply hose storage — ft (m)	—	—	—	—	—	—	—	—	—	—	—	15 (4.5)
	Suction hose storage — ft (m)	—	—	—	—	—	—	—	—	—	—	—	20 (6.0)
Roadside Safety	Wheel chocks — structural	2	2	2	2	2	2	2	2	—	—	—	—
	Wheel chocks — wildland	—	—	—	—	—	—	—	—	2	2	2	2
	Traffic vests	1 per seating position											
	Traffic cones	5	5	5	5	5	5	5	5	—	—	—	—
	Illuminated traffic warning devices	5	5	5	5	5	5	5	5	—	—	—	—
	Traffic warning triangle kit	—	—	—	—	—	—	—	—	1	1	1	1
	Tire tools (if spare tire is provided)	—	—	—	—	—	—	—	—	1	1	1	1
Aerial Safety	Ladder belts meeting the requirements	—	—	—	—	4	4	—	—	—	—	—	—

		=	=	<u>Pumper</u>	<u>Initial Attack</u>	<u>Mobile Water Supply</u>	<u>Mobile Water Supply w/ pump</u>	<u>Aerial</u>	<u>Quint</u>	<u>Special Service</u>	<u>Mobile Foam</u>	<u>Wildland Fire Suppression</u>
	of NFPA 2500											

Statement of Problem and Substantiation for Public Input

Typically achieved by fusees which are readily available on wildland fire apparatus and ordered thru the NFES catalog. This does not have to be furnished by the contractor

Submitter Information Verification

Submitter Full Name: William Yohn
Organization: US Department of the Interior
Affiliation: NWCG Mobile Equipment Subcommittee
Street Address:
City:
State:
Zip:
Submission Date: Thu Aug 15 13:32:30 EDT 2024
Committee: FDA-AAA

Committee Statement

Resolution: The substantiation does not support the proposed change. There is no requirement in 8.1 or 8.18 that the illuminated traffic warning devices be supplied by the contractor. It says that they "are readily available on wildland apparatus", so the committee does not support removing the requirement.



Public Input No. 87-NFPA 1900-2025 [Section No. 8.2.1]

8.2.1

All fire department ground ladders carried on the apparatus shall meet the requirements of ~~NFPA 1931~~ NFPA 1960 and be new or have successfully completed the annual service test per ~~NFPA 1932~~ NFPA 1930 within the last year, except as permitted by 8.2.2.

Statement of Problem and Substantiation for Public Input

Update document numbers due to document consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFAP 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 16:02:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be updated by editorial due to the update in chapter 2.

**Public Input No. 92-NFPA 1900-2025 [Section No. 8.3.3]****8.3.3**

Suction hose and supply hose shall meet the requirements of ~~NFPA 1964~~ NFPA 1960 .

Statement of Problem and Substantiation for Public Input

Update document number due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Wed Apr 30 16:41:53 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be updated by editorial due to the update in chapter 2.

**Public Input No. 11-NFPA 1900-2024 [Section No. 8.16.2]****8.16.2***

Traffic vest shall provide a five-point breakaway feature that includes two at the shoulders, two at the sides, and one at the front.

[A.8.16.2 Consider ordering XL so that it fits most of the potential users](#)

Statement of Problem and Substantiation for Public Input

Not specifying a size could result in unusable equipment. Over time a variety of people might be the apparatus operator and require a vest for roadside work.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 15 14:01:30 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: The substantiation does not support the proposed change. There is no requirement in 8.1 or 8.18 that the illuminated traffic warning devices be supplied by the contractor. It says that they "are readily available on wildland apparatus", so does not support removing the requirement.

**Public Input No. 144-NFPA 1900-2025 [Section No. 8.18.1]****8.18.1**

Illuminated traffic warning devices shall be self-illuminating such as fusee flares, ~~liquid-burning flares,~~ or battery powered warning lights.

Statement of Problem and Substantiation for Public Input

We should not even mention liquid-burning flares (smudge pots). Probably most people have ever even see on of these. I have not seen one since I was a young child in the 1950's. The US government standard for these liquid-burning flares was effective 1/1/1941. Carrying a round pot of kerosene with a wick sticking out of the top on a modern fire truck is just not something we should condone. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 16:14:23 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-206-NFPA 1900-2026](#)

Statement: We should not even mention liquid-burning flares (smudge pots). Probably most people have ever even see on of these. I have not seen one since I was a young child in the 1950's. The US government standard for these liquid-burning flares was effective 1/1/1941. Carrying a round pot of kerosene with a wick sticking out of the top on a modern fire truck is just not something we should condone.

**Public Input No. 10-NFPA 1900-2024 [Section No. 8.20]****8.20** Tire Tools.

If a tire tool kit is specified it shall include a jack and a lug wrench.

8.20.1 The jack capacity shall exceed the apparatus GVWR.

8.20.2 The lug wrench shall fit the chassis wheel studs.

Statement of Problem and Substantiation for Public Input

Ensures the jack capacity can safely elevate the vehicle, even if the actual weight to lift of a single wheel is less than the total vehicle weight. Typically the weight of a single wheel lift is 60% of the vehicle total, so requiring a capacity equal to the GVWR provides a sufficient margin of safety.

Ensures the lug wrench provided will fit the vehicle wheel studs

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 15 13:55:05 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-97-NFPA 1900-2026

Statement: The committee is going to delete this entire section and possibly move it to the annex. The reason being is that the committee believes this is not something that should be required as part of this standard, but having annex material to assist the end user would be more helpful.

**Public Input No. 359-NFPA 1900-2025 [Section No. 9.1.4]****9.1.4 * –**

A final manufacturer's certification of the GVWR or GCWR, along with a certification of each GAWR, shall be supplied on a label affixed to the vehicle.

Statement of Problem and Substantiation for Public Input

This is a legal requirement of FMVSS 49CFR 567 and does not need to be repeated here.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 361-NFPA 1900-2025 [Section No. A.9.1.4]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 14 20:51:57 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-222-NFPA 1900-2026](#)

Statement: This is a legal requirement of FMVSS 49CFR 567 and does not need to be repeated here.

**Public Input No. 360-NFPA 1900-2025 [Section No. 9.2]****9.2 Engine and Engine System Design.****9.2.1 Chassis Engine.****9.2.1.1**

Engine derate programming shall be permitted to be used to protect the engine.

9.2.1.2 IC Engine Speed Auxiliary Control Device.**9.2.1.2.1***

If an IC engine speed auxiliary control device is provided, an interlock shall prevent the operation of the IC engine speed auxiliary control device unless the parking brake is engaged and the transmission is in neutral or park, or the parking brake is engaged and the IC engine is disengaged from the drive wheels.

9.2.1.2.2

The IC engine shall be prevented from regulating its own speed during times when speed control is critical for consistent apparatus functions such as generator, water pump, or aerial operation.

9.2.1.3 –

~~The installation of the IC engine, transmission, and IC engine and transmission-driven accessories [power takeoffs (PTOs), etc.] shall meet the IC engine and transmission manufacturers' installation recommendations for the service intended.~~

9.2.1.4

A means of displaying the total engine run time in hours shall be provided.

9.2.2 – Cooling System.

~~The engine's cooling system shall maintain a temperature in the engine at or below the engine manufacturer's maximum temperature rating under all conditions for which the apparatus is designed.~~

9.2.3 – Lubrication System 3 Fluids Label .

A permanent label in the driving compartment shall specify the quantity and type of the following applicable fluids used in the vehicle and the following tire information:

- (1) Engine oil
- (2) Engine coolant
- (3) Chassis transmission fluid
- (4) Pump transmission lubrication fluid
- (5) * Front tire cold pressure
- (6) * Rear tire cold pressure
- (7) Maximum tire speed ratings

9.2.4* Air Intake System for IC Engines.**9.2.4.1***

The air intake shall be equipped with a means of separating water and burning embers from the air intake system.

9.2.4.2

The requirement in 9.2.4.1 shall be permitted to be achieved by either of the following methods:

- (1) A device such that burning particulate matter larger than 0.039 in. (1.0 mm) in diameter cannot reach the air filter element
- (2) A device capable of meeting the test requirements of FAMA TC079, *Ember Separator Test*

9.2.5 Fuel System for IC Engines.**9.2.5.1 –**

~~The fuel supply lines and fuel filters shall meet the engine manufacturer's recommendations.~~

9.2.5.2

The filters or strainers shall be of a serviceable type and mounted in an accessible location.

9.2.6 Exhaust System for IC Engines.**9.2.6.1**

The exhaust piping and discharge outlet shall be located or shielded so as not to expose any portion of the apparatus or equipment to excessive heating.

9.2.6.2

Exhaust pipe discharge shall be directed away from any operator's position.

9.2.6.3

If the apparatus is equipped with stabilizers, the exhaust piping discharge shall be directed away from the contact area between the stabilizer and the ground when the stabilizer is deployed.

9.2.6.4

Where parts of the exhaust system are exposed so that they are likely to cause injury to operating personnel, protective guards shall be provided.

9.2.6.5 Exhaust System for Diesel Engines.**9.2.6.5.1**

Diesel engine equipped apparatus having GVWR of 19,501 lb (8,846 kg) or greater shall be equipped with a switch located in the driver's area of the driving compartment to initiate the regeneration process manually.

9.2.6.5.2

Instructions for initiating the manual regeneration process shall be ~~explained~~ contained in the apparatus operator's manual.

9.2.6.5.3*

For apparatus over 19,501 lb (8,846 kg), a switch shall be provided at the driver's area that will ~~inhibit inhibit diesel~~ inhibit diesel particulate filter (DPF) regeneration until the switch is reset or the engine is shut down and restarted.

9.2.6.5.4*

Engine exhaust gas temperature shall not exceed 851°F (455°C) when measured at the exit of the exhaust pipe during normal DPF regeneration.

Statement of Problem and Substantiation for Public Input

9.2.1.3, 9.2.9, 9.2.5.1 This statements should not be included in a standard for the following reasons: 1) They provide no measurable value or performance requirement since there is no control over what the component manufacturer may or may not include in their installation recommendations. 2) The statements talk about "installation recommendations" in general rather than calling out a specific document that can be listed in the reference section of this standard and referred to by the reader. 3) These statements are incomplete because component manufacturers have a large list of specific requirements other than coolant temperature. 4) These statements are not needed as the installation details are self regulated by the relationship between the vehicle and component manufacturers

Grammatical edits

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 14 20:59:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-354-NFPA 1900-2026](#)

Statement: 9.2.1.3, 9.2.9, 9.2.5.1 This statements should not be included in a standard for the following reasons: 1) They provide no measurable value or performance requirement since there is no control over what the component manufacturer may or may not include in their installation recommendations. 2) The statements talk about "installation recommendations" in general rather than calling out a specific document that can be listed in the reference section of this standard and referred to by the reader. 3) These statements are incomplete because component manufacturers have a large list of specific requirements other than coolant temperature. 4) These statements are not needed as the installation details are self regulated by the relationship between the vehicle and component manufacturers.

Annex material added to remind the purchaser that the manual regen and inhibit functions are good to have even if their apparatus is less than 19,500 GVW.

**Public Input No. 439-NFPA 1900-2025 [Section No. 9.2.1.2]****9.2.1.2– Internal Combustion (IC)_ Engine Speed Auxiliary Control Device.****9.2.1.2.1***

If an IC engine speed auxiliary control device is provided, an interlock shall prevent the operation of the IC engine speed auxiliary control device unless the parking brake is engaged and the transmission is in neutral or park, or the parking brake is engaged and the IC engine is disengaged from the drive wheels.

9.2.1.2.2

The IC engine shall be prevented from regulating its own speed during times when speed control is critical for consistent apparatus functions such as generator, water pump, or aerial operation.

Statement of Problem and Substantiation for Public Input

This acronym needs to be spelled out and also added to the glossary.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 14:27:30 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The IC abbreviation is already in chapter 3 Definitions, and it is a commonly understood abbreviation in the world.

**Public Input No. 440-NFPA 1900-2025 [Section No. 9.2.4.1]****9.2.4.1***

The air intake shall be equipped with a fire resistant air filter or means of separating water and burning embers from the air intake system.

Statement of Problem and Substantiation for Public Input

Some ember screens are difficult to service and a fire resisted air filter might be better. USFS T&D is doing project work to show that these are equally effective as ember separator.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 14:31:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: A fire resistant filter can be used under the current wording as long as it meets the FAMA test. As for providing extra filters, the purchaser can specify extra filters if they desire, but as a minimum standard we should not be adding spare parts. There are many other items on an apparatus where you could make the same spare parts argument that it is important that the correct service parts are used (batteries, tires, engine oils, ladder lubricant, oil filters, hydraulic hoses, air lines, brake pads, etc...) and we don't specify they are purchased with the truck.



Public Input No. 442-NFPA 1900-2025 [New Section after 9.2.4.2]

9.2.4.3 If a fire resistant air filter is present on the vehicle:

(1) A warning label on the dashboard stating that the air filter is a “fire resistant” air filter and should only be replaced with an equivalent fire resistant air

filter.

(2) A warning label shall be affixed on the air intake stating that the air filter is a “fire resistant” air filter and should only be replaced with an equivalent

fire resistant air filter.

(3) A spare fire resistant air filter shall be provided as standard equipment on the vehicle.

Statement of Problem and Substantiation for Public Input

This revision is to ensure that vehicles equipped with fire resistant air filters have them replaced by compatible fire resistant air filters only and not a standard air filter.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 14:37:40 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-223-NFPA 1900-2026](#)

Statement: This revision is to ensure that vehicles equipped with fire resistant air filters have them replaced by compatible fire resistant air filters only and not a standard air filter.

**Public Input No. 441-NFPA 1900-2025 [Section No. 9.2.4.2]****9.2.4.2**

The requirement in ~~9.2.4.1 shall~~ for a means to separating burning embers shall be permitted to be achieved by either of the following methods:

- (1) A device such that burning particulate matter larger than 0.039 in. (1.0 mm) in diameter cannot reach the air filter element
- (2) A device capable of meeting the test requirements of FAMA TC079, *Ember Separator Test*

Statement of Problem and Substantiation for Public Input

Clarifying the phrasing within this section to go along with 9.2.4.1 proposed changes.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 14:33:17 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: A fire resistant filter can be used under the current wording as long as it meets the FAMA test. As for providing extra filters, the purchaser can specify extra filters if they desire, but as a minimum standard we should not be adding spare parts. There are many other items on an apparatus where you could make the same spare parts argument that it is important that the correct service parts are used (batteries, tires, engine oils, ladder lubricant, oil filters, hydraulic hoses, air lines, brake pads, etc...) and we don't specify they are purchased with the truck.

**Public Input No. 443-NFPA 1900-2025 [Section No. 9.2.6.5]**

9.2.6.5 Exhaust System for Diesel Engines. * For apparatus having GVWR of 19,500 lb (8,846 kg) or lower the requirement to perform manual regeneration and inhibit regeneration should be ordered whenever available OEM from the chassis manufacturer

9.2.6.5.1

Diesel engine equipped apparatus having GVWR of 19,501 lb (8,846 kg) or greater shall be equipped with a switch located in the driver's area of the driving compartment to initiate the regeneration process manually.

9.2.6.5.2

Instructions for initiating the manual regeneration process shall be explained in the apparatus operator's manual.

9.2.6.5.3*

For apparatus over 19,501 lb (8,846 kg), a switch shall be provided at the driver's area that will inhibit diesel particulate filter (DPF) regeneration until the switch is reset or the engine is shut down and restarted.

9.2.6.5.4*

Engine exhaust gas temperature shall not exceed 851°F (455°C) when measured at the exit of the exhaust pipe during normal DPF regeneration.

Statement of Problem and Substantiation for Public Input

Annex material

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 14:43:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-354-NFPA 1900-2026](#)

Statement: 9.2.1.3, 9.2.9, 9.2.5.1 This statements should not be included in a standard for the following reasons: 1) They provide no measurable value or performance requirement since there is no control over what the component manufacturer may or may not include in their installation recommendations. 2) The statements talk about "installation recommendations" in general rather than calling out a specific document that can be listed in the reference section of this standard and referred to by the reader. 3) These statements are incomplete because component manufacturers have a large list of specific requirements other than coolant temperature. 4) These statements are not needed as the installation details are self regulated by the relationship between the vehicle and component manufacturers.

Annex material added to remind the purchaser that the manual regen and inhibit functions are good to have even if their apparatus is less than 19,500 GVW.

**Public Input No. 444-NFPA 1900-2025 [Section No. 9.2.6.5.1]****9.2.6.5.1**

Diesel engine equipped apparatus having GVWR of 19,501 lb (8,846 kg) or greater shall be equipped with ~~a switch located in the driver's area of the driving compartment~~ the function to initiate the regeneration process manually.

Statement of Problem and Substantiation for Public Input

there might be other means to initiate the regen other than a switch

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 14:54:13 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-354-NFPA 1900-2026](#)

Statement: 9.2.1.3, 9.2.9, 9.2.5.1 This statements should not be included in a standard for the following reasons: 1) They provide no measurable value or performance requirement since there is no control over what the component manufacturer may or may not include in their installation recommendations. 2) The statements talk about "installation recommendations" in general rather than calling out a specific document that can be listed in the reference section of this standard and referred to by the reader. 3) These statements are incomplete because component manufacturers have a large list of specific requirements other than coolant temperature. 4) These statements are not needed as the installation details are self regulated by the relationship between the vehicle and component manufacturers.

Annex material added to remind the purchaser that the manual regen and inhibit functions are good to have even if their apparatus is less than 19,500 GVW.

**Public Input No. 445-NFPA 1900-2025 [Section No. 9.2.6.5.2]****9.2.6.5.2.3**

Instructions for ~~initiating the~~ for operating the initiation and inhibiting of the manual regeneration process shall be explained in the apparatus operator's manual.

Statement of Problem and Substantiation for Public Input

Added inhibiting renumbered accordingly in the standard

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 15:00:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-354-NFPA 1900-2026](#)

Statement: 9.2.1.3, 9.2.9, 9.2.5.1 This statements should not be included in a standard for the following reasons: 1) They provide no measurable value or performance requirement since there is no control over what the component manufacturer may or may not include in their installation recommendations. 2) The statements talk about "installation recommendations" in general rather than calling out a specific document that can be listed in the reference section of this standard and referred to by the reader. 3) These statements are incomplete because component manufacturers have a large list of specific requirements other than coolant temperature. 4) These statements are not needed as the installation details are self regulated by the relationship between the vehicle and component manufacturers.

Annex material added to remind the purchaser that the manual regen and inhibit functions are good to have even if their apparatus is less than 19,500 GVW.

**Public Input No. 448-NFPA 1900-2025 [Section No. 9.2.6.5.3]****9.2.6.5.3***

For apparatus over 19,501 lb (8,846 kg), ~~a switch~~ the function shall be provided ~~at the driver's area that will inhibit inhibit~~ to inhibit diesel particulate filter (DPF) regeneration until ~~the switch is~~ reset or the engine is shut down and restarted.

Statement of Problem and Substantiation for Public Input

There might be other ways than a switch to inhibit regen

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 15:12:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-354-NFPA 1900-2026](#)

Statement: 9.2.1.3, 9.2.9, 9.2.5.1 This statements should not be included in a standard for the following reasons: 1) They provide no measurable value or performance requirement since there is no control over what the component manufacturer may or may not include in their installation recommendations. 2) The statements talk about "installation recommendations" in general rather than calling out a specific document that can be listed in the reference section of this standard and referred to by the reader. 3) These statements are incomplete because component manufacturers have a large list of specific requirements other than coolant temperature. 4) These statements are not needed as the installation details are self regulated by the relationship between the vehicle and component manufacturers.

Annex material added to remind the purchaser that the manual regen and inhibit functions are good to have even if their apparatus is less than 19,500 GVW.

**Public Input No. 71-NFPA 1900-2025 [Section No. 9.2.6.5.3]****9.2.6.5.3***

For apparatus over 19,501 lb (8,846 kg), a switch shall be provided at the driver's area that will ~~inhibit inhibit diesel~~ inhibit diesel particulate filter (DPF) regeneration until the switch is reset or the engine is shut down and restarted.

Statement of Problem and Substantiation for Public Input

two "inhibit" words in statement

Submitter Information Verification

Submitter Full Name: Stephen Wilde

Organization: Certified Fleet Services, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Mar 04 12:56:24 EST 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-354-NFPA 1900-2026](#)

Statement: 9.2.1.3, 9.2.9, 9.2.5.1 This statements should not be included in a standard for the following reasons: 1) They provide no measurable value or performance requirement since there is no control over what the component manufacturer may or may not include in their installation recommendations. 2) The statements talk about "installation recommendations" in general rather than calling out a specific document that can be listed in the reference section of this standard and referred to by the reader. 3) These statements are incomplete because component manufacturers have a large list of specific requirements other than coolant temperature. 4) These statements are not needed as the installation details are self regulated by the relationship between the vehicle and component manufacturers.

Annex material added to remind the purchaser that the manual regen and inhibit functions are good to have even if their apparatus is less than 19,500 GVW.

**Public Input No. 446-NFPA 1900-2025 [Section No. 9.2.6.5.4]****9.2.6.5.4 * –**

Engine exhaust gas temperature shall not exceed 851°F (455°C) when measured at the exit of the exhaust pipe during normal DPF regeneration.

Statement of Problem and Substantiation for Public Input

Newer engines have higher temperatures than this and it isn't realistic to require OEM manufactures to meet.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 15:06:08 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The exhaust gas temperature should be mitigated using an exhaust gas mitigation device on the tailpipe or some other means. These devices became common when DPF and regeneration was introduced in 2007.

**Public Input No. 362-NFPA 1900-2025 [Section No. 9.3.1.3]****9.3.1.3 Quick-Buildup Air Pressure Maintain System.****9.3.1.3.1 –**

Structural fire apparatus braking systems shall include a quick buildup section in the air reservoir system arranged so that if the apparatus has a completely discharged air system it is able to move within 60 seconds of startup.

9.3.1.3.2 –

The quick buildup system shall provide sufficient air pressure so that the apparatus has no brake drag and is able to stop under the intended operating conditions following the 60-second buildup time.

9.3.1.3.3 * –

On a chassis that cannot be equipped with a quick buildup air brake system

3 * –

For structural apparatus, an onboard automatic electric compressor or a fire station compressed air shoreline hookup shall be permitted provided to maintain full operating air pressure while the vehicle is not running in the fire station bay.

Statement of Problem and Substantiation for Public Input

This quick build-up brake system has two inherent problems. 1) it casts doubt on the pressure protection valve requirement in the previous paragraph. If we feel that the brake system should have priority below 80 psi, what logic allows us to assert that the vehicle is safe to operate when the air brake pressure is below 80 psi. 2) The statement "is able to stop under the intended operating conditions" is not defined. What is the intended operating condition? What about an apparatus at a station located on the top of a hill in San Francisco? FMVSS 121 is the governing regulation for all air brake equipped vehicles throughout North America. We use the same engines and air brake compressors as every other truck on the road. So to meet this quick build-up requirement the fire service has historically allowed the apparatus to drive off before the brake system has reached its normal pressure requirement. This is contrary to basic safety. There is no way we should be encouraging fire personnel to drive a 50 to 80K truck without the air brake system pressure where it should be. The safe and prudent thing to do is to make sure every truck in every station is full of air when it leaves the station by the normal means, either an on-board compressor, or a compressed air plug-in.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submission Date: Mon Jul 14 21:13:33 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-355-NFPA 1900-2026

Statement: This quick build-up brake system has two inherent problems. 1) it casts doubt on the pressure protection valve requirement in the previous paragraph. If we feel that the brake system should have priority below 80 psi, what logic allows us to assert that the vehicle is safe to operate when the air brake pressure is below 80 psi. 2) The statement "is able to stop under the intended operating conditions" is not defined. What is the intended operating condition? What about an apparatus at a station located on the top of a hill in San Francisco? FMVSS 121 is the governing regulation for all air brake equipped vehicles throughout North America. We use the same engines and air brake compressors as every other truck on the road. So to meet this quick build-up requirement the fire service has historically allowed the apparatus to drive off before the brake system has reached its normal pressure requirement. This is contrary to basic safety. There is no way we should be encouraging fire personnel to drive a 50 to 80K truck without the air brake system pressure where it should be. The safe and prudent thing to do is to make sure every truck in every station is full of air when it leaves the station by the normal means, either an on-board compressor, or a compressed air plug-in.



Public Input No. 447-NFPA 1900-2025 [Section No. 9.3.2.3.2]

9.3.2.3.2

For wildland fire apparatus any components other than axle housings, wheels, tires, automatic tire chains, and items designed to swing clear shall clear the road surface by at least the ground clearance specified in Table 9.3.2.3.2.

Table 9.3.2.3.2 Under-Vehicle Clearance

Chassis GVWR			Ground Clearance		
lb	kg		in.	mm	
10,001–16,000	4536–7257	-	12	300	
16,001–19,500	7258–8845	-	13	10 1/2	330
19,501 and above	8846 and above	-	15	380	

Statement of Problem and Substantiation for Public Input

For items such as skid plates this is too restrictive. The lowest components on the vehicle OEM, such as the oil pan already have less ground clearance than specified. 2024 model year Dodge 5500 T6 engine at BFX measured 10 ¾ as built

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 15:08:06 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-38-NFPA 1900-2026](#)

Statement: The committee researched commercial chassis ground clearance and determined that none of the currently available chassis would meet the requirements in the table. The committee determined that 10 inch clearance was obtainable and reasonable as a minimum standard. Wildland purchasers who need more ground clearance can specify lift kits or other means of increasing ground clearance if they are OK with the trade-offs.

**Public Input No. 363-NFPA 1900-2025 [Section No. 9.3.5]****9.3.5* ~~Tow Hooks~~ Recovery Hooks .**

Front and rear ~~tow~~ hooks or ~~tow~~ eyes shall be attached to the frame structure to allow ~~towing~~ pulling (not lifting) of the apparatus without damage.

Statement of Problem and Substantiation for Public Input

These hooks or eyes would never be used for towing the vehicle, only for pulling it out of a stuck situation, such as sunk in soft ground. They are also not for towing something else (see 9.3.6).

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 14 21:19:18 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-221-NFPA 1900-2026](#)

Statement: These hooks or eyes would never be used for towing the vehicle, only for pulling it out of a stuck situation, such as sunk in soft ground. They are also not for towing something else (see 9.3.6).

**Public Input No. 332-NFPA 1900-2025 [New Section after 9.3.6.5]****9.4 Vehicle Stability.****9.4.1* Stability Control System****9.4.1.1**

The apparatus shall be equipped with a stability control system in any configuration for which it is commercially available.

9.4.1.2

The stability control system shall have, at a minimum, a steering wheel position sensor, a vehicle yaw sensor, a lateral accelerometer, and individual wheel brake controls.

9.4.2

Apparatus completed in two or more stages shall not exceed the incomplete vehicle manufacturer's maximum allowable vertical center of gravity.

9.4.3 Rollover Stability.**9.4.3.1**

Structural fire apparatus not equipped with a stability control system and all wildland fire apparatus shall meet either of the following:

- (1) *The apparatus shall remain stable in both directions in accordance with Table 9.4.3.1 when tested on a tilt table in accordance with SAE J2180, *A Tilt Table Procedure for Measuring the Static Rollover Threshold for Heavy Trucks*.
- (2) The calculated or measured vertical center of gravity (VCG) divided by the rear axle track width shall not exceed the applicable criterion in Table 9.4.3.1.

Table 9.4.3.1 Rollover Stability Requirements

Vehicle	Tilt Criteria (degrees)	VCG/Track (percentage)
Wildland fire apparatus ≤33,000 lb (15,000 kg) GVWR	30	75
Wildland fire apparatus >33,000 lb (15,000 kg) GVWR	27	80
Structural fire apparatus not equipped with a stability control system	26.5	80

9.4.3.2

Certification shall be by one of the following methods:

- (1) Performing a tilt-table test on the completed apparatus
- (2) Calculating the point at which the apparatus will tip based on centers of gravity, suspension geometry, suspension compliance, and tire compliance
- (3) Comparing the apparatus design to a previously certified substantially similar apparatus
- (4) Demonstrating that the calculated or measured center of gravity (CG) divided by the rear axle track width does not exceed the value in Table 9.4.3.1

9.4.3.3

Certification shall be delivered with the fire apparatus.

9.4.3.4

A previously certified apparatus shall be considered substantially similar if it includes a chassis with the same or higher CG height, the same or narrower rear axle track width, the same or greater water tank size and CG height, the same type of front and rear suspension, and the same type and size of aerial device.

9.4.3.5

For purposes of certification the apparatus shall be loaded with fuel, water, firefighting agents, hose, ladders, a weight of 250 lb in each seating position, and weight equivalent to the miscellaneous equipment allowance.

9.4.3.6

If the apparatus is designed to meet a specified higher equipment loading or larger hose bed capacity or to carry additional ground ladders, these greater loads shall be accounted for in the testing, calculating, or measuring.

9.4.3.7

The weight added to the fire apparatus for certification, calculation, or measurement shall be distributed to approximate typical in-service use of the fire apparatus while not exceeding the manufacturer's published individual compartment weight ratings.

9.4.4 Weight Distribution.**9.4.4.1***

When the fire apparatus is loaded to its estimated in-service weight, the front-to-rear weight distribution shall be within the limits set by the chassis manufacturer.

9.4.4.2

The front axle loads shall not be less than the minimum axle loads specified by the chassis manufacturer under full load and all other loading conditions.

9.4.4.3 *

The fire apparatus, when loaded to its estimated in-service weight, shall have a side-to-side tire load variation of no more than 7 percent of the total tire load for that axle.

9.4.5*

Each tire shall be equipped with a visual indicator or monitoring system that indicates tire pressure.

A.9.4.1

Several features and factors affect vehicle safety in a rollover.

Custom Fire Apparatus Cab. The nature of the custom fire apparatus cab makes it much stronger in rollover than typical conventional commercial chassis cabs. There is much anecdotal evidence to indicate that the crashworthiness of a typical custom fire apparatus cab is significantly greater than a typical commercial cab, and most custom chassis manufacturers can provide test data on cab integrity.

Lateral Acceleration Alert Device. There are both mechanical and electronic devices available that will measure the lateral acceleration of a vehicle. Although these devices will not prevent rollover, they can be used effectively as a driver training tool to indicate when the vehicle is approaching the roll threshold and as a reminder to the driver that excessive lateral acceleration can lead to a rollover event.

Side Roll Protection. Many custom fire apparatus manufacturers offer side air bags or curtains that inflate during a roll event and that are usually combined with seat belt pretensioning devices and suspension seat pull-down devices. This option can reduce injury during a rollover as long as the occupants are seated and belted.

Roll Stability Control. This technology electronically senses the lateral acceleration of the vehicle and takes action by depowering the engine and applying the brakes if the vehicle approaches a roll threshold. The effectiveness of this product is limited to events on relatively flat pavement, since it cannot do much to help the situation once a vehicle is off the road and leaning into a ditch.

Electronic Stability Control (ESC). ESC has been standard in passenger vehicles as of 2011. It helps drivers maintain control of their vehicle during extreme steering maneuvers by keeping the vehicle headed in the driver's intended direction, even when the vehicle nears or exceeds the limits of road traction. ESC has been added as a requirement to fire apparatus for those configurations where the technology is readily available. Before ESC can be offered on an apparatus, algorithms must be designed and the configuration must be tested to prove that it will work safely in all conditions. There are certain configurations in the fire service where the production volumes are so low that the major manufacturers of braking ESC systems cannot make a business case to develop it. In the case of tractor drawn aerials (TDAs), the algorithm would be so complex it is unlikely that ESC could ever be offered. The intent of the requirement in 7.14.1 is to require ESC on all apparatus where the technology is currently available. Configurations where the technology might not be commercially available include the following:

- (1) Apparatus with a driving front axle.
- (2) TDA apparatus
- (3) Apparatus with rear axle steering

Driver Skill and Experience. While the design and features of the vehicle are important to safe driving, the most important aspect of crash prevention is the skill and experience of the operator. The operator's attitude, training, experience, qualifications, and the application of those qualities are the most important elements in crash prevention. The operator must ensure that the physical limits of the vehicle are not exceeded. Driver skill is developed only through training and practice.

A.9.4.3.1(1)

When a vehicle is on a tilt table, the point of instability is when the vehicle is "balanced" on the verge of rollover, and very little constraining force, if any, is required to restrain the vehicle. This can occur with the front wheels still in contact with the surface of the tilt table or with other wheels in contact with the surface of the tilt table.

A.9.4.4.1

The distribution of the weight between the front wheels and the rear wheels should be a major consideration, because improper design will seriously affect the handling characteristics of the fire apparatus. Too little weight on the front wheels can cause a front-end skid and, on bumpy roads, can cause the front of the fire apparatus to veer from side to side. At the very least, it would be difficult to keep the fire apparatus under control. Too much weight on the front wheels reduces the traction of the rear wheels and can result in a rear-end skid or difficulty in traveling over unpaved roads or in mud.

It is critical that the purchaser provide the manufacturer the equipment inventory and mounting locations for equipment on the apparatus. This information should include existing equipment and estimated future equipment to be carried. The projections of total equipment payload and mounting locations are essential for proper engineering of a new fire apparatus. It is the responsibility of the purchaser to properly load the fire apparatus and place equipment to comply with the GVWR, GAWR, the front-to-rear weight distribution, and the right-to-left load balance requirements of this standard. See Annex E for information on equipment weights and vehicle loading.

A.9.4.4.3

The projections of total equipment payload and mounting locations are essential for proper engineering of a new fire apparatus. The purchaser of the fire apparatus should maintain the side-to-side loading requirement in 7.14.5.4 as equipment is loaded or installed on the apparatus.

The percentage difference in side-to-side tire load should be calculated as shown in the following formula:

$$\frac{(\text{heavier weight} - \text{lighter weight})}{\text{total weight}} \times 100 = \text{percent difference} \quad \text{[A.9.4.4.3]}$$

A.9.4.5

A frequent killer of firefighters is apparatus rollover. Proper tire inflation improves the handling characteristics and minimizes rollover.

Text moved from 7.14 except Load Distribution sections required by FMVSS.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 331-NFPA 1900-2025 [Section No. 7.14]	
Public Input No. 335-NFPA 1900-2025 [Sections A.7.14.1, A.7.14.3.1(1), A.7.14.4.1, A.7.14.5.1, A...]	
Public Input No. 331-NFPA 1900-2025 [Section No. 7.14]	
Public Input No. 335-NFPA 1900-2025 [Sections A.7.14.1, A.7.14.3.1(1), A.7.14.4.1, A.7.14.5.1, A...]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Affiliation: Admin task group for NFPA 1900/1910
Street Address:
City:
State:
Zip:
Submission Date: Mon Jun 30 17:51:31 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: FR-201-NFPA 1900-2026
Statement: The committee is moving this text to it's proper location within the standard. The current 7.14.5, 7.14.5.1, 7.14.5.2, and 7.14.5.3 are not included in this move to 9.4.

When operating in the wildland fire environment, stability control systems can interfere with safe vehicle operation by unnecessary activating/engaging at inopportune times, such as maneuvering/navigating on tight/narrow/steep/switchback roads or operating off-road. The vehicle stability systems are not optimized for higher center of gravity four-wheel drive designed vehicles and frequently activates when no activation is needed. Wildland Fire apparatus frequently works off of public highways and further information is necessary before requiring these on all wildland fire apparatus.

**Public Input No. 336-NFPA 1900-2025 [New Section after 9.3.6.5]****9.5 EV Engine Equipped Apparatus****9.5.1 Crash Disconnect.**

If the high voltage EV batteries disconnect in the event of a crash, the crash detection shall not be required to function if the ignition is OFF.

9.5.2 High Voltage Battery First Responder Cut Loops.**9.5.2.1**

There shall be a first responder cutloop in the battery management circuit that, when cut, will disconnect the charge from the high voltage battery cells.

9.5.2.2

Each first responder cut loop shall be protected behind an access door large enough to reach the loop with a standard pair of bolt cutters.

9.5.2.3

The access doors shall be located one on each side the apparatus on the pump panel or body as near to the back of the cab as practical.

9.5.2.4

The access doors shall be held closed without a latch to allow quick address to the first responder cut loop.

9.5.2.5

The first responder cut loop shall have a connector between it and the rest of the battery management circuit that allows the loop to be removed to temporarily disable the high voltage system.

9.5.2.6

Safety sign FAMA58, which identifies the location of the first responder cut loop, shall be located on each access door.

9.5.3 EV Identification Sign.**9.5.3.1**

Identification signs shall be located on each side of the cab and at the rear of the apparatus.

9.5.3.2

Each sign shall be in accordance with ISO 17840-4, *Road vehicles — Information for first and second responders — Part 4: Propulsion energy identification*.

9.5.3.2.1

The size of the sign for a vehicle Class 5 and below shall be 4.72 in. (120 mm) wide and 3.27 in. (83 mm) high.

9.5.3.2.2

The size of the sign for a vehicle Class 6 and above shall be 5.7 in. (145 mm) wide and 4.2 in. (107 mm) high.

9.5.4

Safety sign FAMA57, which warns of electrocution hazards, shall be visible to an operator near the charge socket of any apparatus equipped with an EV engine.

Statement of Problem and Substantiation for Public Input

Move section from 7.23 to chassis chapter 9.5 before Tractor-Drawn Aerial Apparatus.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document**Related Input****Relationship**

Public Input No. 337-NFPA 1900-2025 [Section No. 7.23]

Public Input No. 337-NFPA 1900-2025 [Section No. 7.23]

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jul 02 11:36:19 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-203-NFPA 1900-2026](#)

Statement: The committee is moving this text to it's proper location within the standard. There were no changes to the text other than being re-numbered.



Public Input No. 45-NFPA 1900-2024 [Section No. 10.1]

10.1 * – General.

Any low voltage electrical systems or warning devices installed on the fire apparatus shall be appropriate for the mounting location and intended electrical load and shall meet the specific requirements of Chapter 10.

Statement of Problem and Substantiation for Public Input

This text is redundant. Chapter 7 already calls for the requirements in chapter 10 to be applied on all fire apparatus. See 7.1.1. The comments about “appropriate for the mounting location and intended electrical load” is not measurable and therefore not appropriate for standards language.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 13:54:48 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-258-NFPA 1900-2026](#)

Statement: This text is redundant. Chapter 7 already calls for the requirements in chapter 10 to be applied on all fire apparatus. See 7.1.1. The comments about “appropriate for the mounting location and intended electrical load” is not measurable and therefore not appropriate for standards language.

**Public Input No. 46-NFPA 1900-2024 [Section No. 10.2]****10.2 Wiring.**

~~All electrical circuit feeder wiring supplied and installed~~ power conducting wiring other than that supplied as part of a commercial chassis, a purchased component, a digital communication network, or other system not provided by the fire apparatus manufacturer shall OEM shall meet the requirements of 10.2.1 through 10.2.8.

10.2.1* –

~~The circuit feeder wire shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected~~

~~–~~

10.2.1.1 –

Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent.

10.2.1.2

The use of star washers for circuit ground connections shall not be permitted.

10.2.1.3

~~All circuits shall otherwise be wired in conformance with SAE~~ Wiring on the apparatus shall conform to SAE J2202, Heavy-Duty Wiring Systems for On-Highway Trucks, or for trailer wiring, SAE

10.2.1.4

Wiring on towed vehicles shall conform to SAE J2174, Heavy-Duty Wiring Systems for Trailers 2032 mm or More in Width.

10.2.2 Wiring and Wire Harness Construction.**10.2.2.1**

~~All insulated wire and cable low voltage cable 6 guage and larger~~ shall conform to SAE J1127, *Low Voltage Battery Cable*, or SAE J1128, *Low Voltage Primary Cable*, type SXL, GXL, or TXL.

10.2.2.

~~1.1–~~

2

All

~~conductors shall be constructed in accordance with SAE J1127 or SAE J1128, except where good engineering practice dictates special strand construction.~~

10.2.2.1.2 –

~~Conductor materials and stranding, other than copper, shall be permitted if all applicable requirements for physical, electrical, and environmental conditions are met as dictated by the end application.~~

10.2.2.1.3 –

~~Physical and dimensional values of conductor insulation shall be in conformance with the requirements of SAE J1127 or SAE J1128, except where good engineering practice dictates special conductor insulation.~~

10.2.2.2 –

~~The overall covering of conductors 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.~~

10.2.3 –

~~The overall covering of jacketed cables shall be moisture-resistant and have a minimum continuous temperature rating of 194°F (90°C), except where good engineering practice dictates special consideration for cable installations exposed to higher temperatures.~~

~~10.2.~~

~~insulated low voltage wire from 8 gauge to 24 gauge shall conform to SAE J1128, *Low Voltage Primary Cable*, type SXL, GXL, or TXL.~~

10.2.4

All wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection.

10.2.4.1

The wiring connections and terminations shall be installed in accordance with the device manufacturer's instructions.

10.2.4.2*

All ungrounded electrical terminals shall have protective covers, enclosures, or a means to protect from accidental shorting.

10.2.4.3

Wire nut, insulation displacement, and insulation piercing connections shall not be used.

10.2.5 –

~~Wiring shall be restrained to prevent damage caused by chafing or ice buildup and protected against heat, liquid contaminants, or other environmental factors.~~

10.2.6*

Wiring shall be uniquely identified at least every 2 ft (0.6 m) by color coding or permanent marking with a circuit function code. The identification shall reference a wiring diagram. [See 7.21.2.3(6).]

10.2.7

Circuits shall be provided with properly rated low voltage overcurrent protective devices.

10.2.7.1

Such devices shall be readily accessible and protected against heat in excess of the overcurrent device's design range, mechanical damage, and water spray.

10.2.7.2

Circuit protection shall be accomplished by utilizing fuses, circuit breakers, fusible links, or solid state equivalent devices.

10.2.7.3

If a mechanical-type device is used, it shall conform to one of the following SAE standards:

- (1) SAE J156, *Fusible Links*
- (2) SAE J553, *Circuit Breakers*
- (3) SAE J554, *Electric Fuses (Cartridge Type)*
- (4) SAE J1888, *High Current Time Lag Electric Fuses*
- (5) SAE J2077, *Miniature Blade Type Electrical Fuses*

10.2.8

Switches, relays, terminals, and connectors shall have a direct current (dc) rating of 125 percent of maximum current for which the circuit is protected.

Statement of Problem and Substantiation for Public Input

10.2 - Fire apparatus manufacturers must purchase components that are commercially available, primarily from the class 8 truck market. These components may not meet the unique requirements of this section. The intent has always been to apply the standards to those part under the control of the apparatus manufacture. Also, CAN network wiring will not meet the same requirements as power conducting wiring so therefore should also be excluded.

10.2.1 - SAE J1127 specifies the allowable conductor materials that are all either copper or copper clad. 10.2.2.1.2 appears to allow other than copper, but why not just use the SAE J1127 specs? SAE J2202 6.3 specifies conductor sizing based on Voltage Drop, which we specify in 10.2.1.1 already. Eliminated the term "Circuit Feeder Wire" as it may not correctly define what we are after. From NEC definitions: Feeder.

All circuit conductors between the service equipment, the source of a separately derived system, or other power supply source and the final branch-circuit overcurrent device. (CMP-10)

10.2.1.3 - Rewritten to conform to NFPA manual of style

10.2.2.1 - Rewritten to indicate which type of conductor should conform to which standard.

10.2.2.1.1 - Redundant text as this is already specified in 10.2.2.1

10.2.2.1.2 - The acceptable conductor materials are specified in the SAE standards. No need to repeat them here

10.2.2.1.3 - Redundant. Already specified in 10.2.2.1

10.2.2.2 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable)

10.2.3 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable)

10.2.5 - Already specified in SAE J2202

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 13:57:35 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-259-NFPA 1900-2026](#)

Statement: The committee is making these changes as 10.2 - Fire apparatus manufacturers must purchase components that are commercially available, primarily from the class 8 truck market. These components may not meet the unique requirements of this section. The intent has always been to apply the standards to those part under the control of the apparatus manufacture. Also, CAN network wiring will not meet the same requirements as power conducting wiring so therefore should also be excluded. 10.2.1 - SAE J1127 specifies the allowable conductor materials that are all either copper or copper clad. 10.2.2.1.2 appears to allow other than copper, but why not just use the SAE J1127 specs? SAE J2202 6.3 specifies conductor sizing based on Voltage Drop, which we specify in 10.2.1.1 already. Eliminated the term "Circuit Feeder Wire" as it may not correctly define what we are after. From NEC definitions: Feeder. All circuit conductors between the service equipment, the source of a separately derived system, or other power supply source and the final branch-circuit overcurrent device. (CMP-10) 10.2.1.3 - Rewritten to conform to NFPA manual of style 10.2.2.1 - Rewritten to indicate which type of conductor should conform to which standard. 10.2.2.1.1 - Redundant text as this is already specified in 10.2.2.1 10.2.2.1.2 - The acceptable conductor materials are specified in the SAE standards. No need to repeat them here 10.2.2.1.3 - Redundant. Already specified in 10.2.2.1 10.2.2.2 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable) 10.2.3 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable) 10.2.5 - Already specified in SAE J2202

Mechanical-type circuit devices are becoming a global commodity. As a result, the test standards and regulatory standards sometimes are not covered by an SAE standard. Adding the ISO equivalent to cover a broader supply chain of components.

The addition of A.10.2 is to clarify that wiring requirements apply only to power, not signal, wiring.

**Public Input No. 483-NFPA 1900-2025 [Section No. 10.2.7.3]****10.2.7.3**

If a mechanical-type device is used, it shall conform to one of the following ~~SAE~~ SAE or ISO standards:

- (1) SAE J156, *Fusible Links*
- (2) SAE J553, *Circuit Breakers*
- (3) SAE J554, *Electric Fuses (Cartridge Type)*
- (4) SAE J1888, *High Current Time Lag Electric Fuses*
- (5) SAE J2077, *Miniature Blade Type Electrical Fuses*
- (6) ISO 10924, Road Vehicles - Circuit Breakers

Statement of Problem and Substantiation for Public Input

Mechanical-type circuit devices are becoming a global commodity. As a result, the test standards and regulatory standards sometimes are not covered by an SAE standard. Adding the ISO equivalent to cover a broader supply chain of components.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 13:09:16 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-259-NFPA 1900-2026

Statement: The committee is making these changes as 10.2 - Fire apparatus manufacturers must purchase components that are commercially available, primarily from the class 8 truck market. These components may not meet the unique requirements of this section. The intent has always been to apply the standards to those part under the control of the apparatus manufacture. Also, CAN network wiring will not meet the same requirements as power conducting wiring so therefore should also be excluded. 10.2.1 - SAE J1127 specifies the allowable conductor materials that are all either copper or copper clad. 10.2.2.1.2 appears to allow other than copper, but why not just use the SAE J1127 specs? SAE J2202 6.3 specifies conductor sizing based on Voltage Drop, which we specify in 10.2.1.1 already. Eliminated the term "Circuit Feeder Wire" as it may not correctly define what we are after. From NEC definitions: Feeder. All circuit conductors between the service equipment, the source of a separately derived system, or other power supply source and the final branch-circuit overcurrent device. (CMP-10) 10.2.1.3 - Rewritten to conform to NFPA manual of style 10.2.2.1 - Rewritten to indicate which type of conductor should conform to which standard. 10.2.2.1.1 - Redundant text as this is already specified in 10.2.2.1 10.2.2.1.2 - The acceptable conductor materials are specified in the SAE standards. No need to repeat them here 10.2.2.1.3 - Redundant. Already specified in 10.2.2.1 10.2.2.2 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable) 10.2.3 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable) 10.2.5 - Already specified in SAE J2202

Mechanical-type circuit devices are becoming a global commodity. As a result, the test standards and regulatory standards sometimes are not covered by an SAE standard. Adding the ISO equivalent to cover a broader supply chain of components.

The addition of A.10.2 is to clarify that wiring requirements apply only to power, not signal, wiring.

**Public Input No. 47-NFPA 1900-2024 [Section No. 10.3.3.1]****10.3.3.1**

The minimum continuous electrical load shall consist of the total amperage required to simultaneously operate the following in a stationary mode during emergency operations:

- (1) The propulsion engine and transmission.
- (2) All legally required clearance and marker lights, headlights, and other electrical devices except windshield wipers and four-way hazard flashers.
- (3) The radio(s) at a duty cycle of 10 percent transmit and 90 percent receive (for calculation and testing purposes, a default value of 5 A continuous).
- (4) The lighting ~~necessary to produce 5 fc (50 lx) of illumination on all control~~ as specified in this standard to illuminate controls and instrument panels.
- (5) On structural fire apparatus, ~~the lighting necessary to produce 2 fc (20 lx) of illumination on all walking surfaces on the apparatus and on the ground at all egress points onto and off the apparatus,~~ load as specified in this chapter for rear work area lighting, hose bed lighting, surface lighting, interior lighting, and 50 percent of the ~~total~~ compartment lighting loads.
- (6) The minimum optical warning system required in Section 10.7, where the apparatus is blocking the right-of-way.
- (7) The continuous electrical current required to simultaneously operate any water pumps, aerial devices, and hydraulic pumps.
- (8) * Other warning devices and electrical loads that are designated by the purchaser as critical to the mission of the apparatus

Statement of Problem and Substantiation for Public Input

(4) and (5) - Refer to the specifications already present in the standard. The minimum illumination levels are already specified elsewhere. Listing values again here can lead to conflicts.

(8) - The annex material indicates that this decision needs to be made by the purchaser. There is no way for the apparatus designer to judge which items are critical since they will not be privy to the operational requirements of the user.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 14:40:08 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-428-NFPA 1900-2026

Statement: (4) and (5) - Refer to the specifications already present in the standard. The minimum illumination levels are already specified elsewhere. Listing values again here can lead to conflicts.

(8)* - The annex material indicates that this decision needs to be made by the purchaser. There is no way for the apparatus designer to judge which items are critical since they will not be privy to the operational requirements of the user.

**Public Input No. 484-NFPA 1900-2025 [Section No. 10.3.3.2]****10.3.3.2**

If the apparatus is equipped to tow a trailer, an additional ~~45 A~~ 20 A shall be added to the minimum continuous electrical load to provide electrical power for the federally required clearance and marker lighting and the optical warning devices mounted on the trailer.

Statement of Problem and Substantiation for Public Input

The current value of 45A is prior to the evolution of LED lighting systems that are used almost exclusively for FMVSS lighting that is called out in this specification today. With the high electrical load requirement today, often times electrical systems are overloaded on commercial product offerings. Moving to 20A is more in line with what the actual loading conditions are and will allow for more flexibility for customers when specifying apparatus.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 13:17:36 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-261-NFPA 1900-2026](#)

Statement: The current value of 45A is prior to the evolution of LED lighting systems that are used almost exclusively for FMVSS lighting that is called out in this specification today. With the high electrical load requirement today, often times electrical systems are overloaded on commercial product offerings. Moving to 20A is more in line with what the actual loading conditions are and will allow for more flexibility for customers when specifying apparatus.

**Public Input No. 48-NFPA 1900-2024 [Section No. 10.3.4]****10.3.4***

~~The condition of the low voltage electrical system shall be monitored by a warning system that provides both an An audible and a visual signal to persons on, in, or near the apparatus of an impending electrical system failure caused by the excessive discharge of the battery set.~~

10.3.4.1 –

~~The charge status of the battery shall be determined either by direct measurement of the battery charge or indirectly by monitoring the electrical system voltage.~~

10.3.4.2 –

~~If electrical system voltage is monitored, the alarm shall sound if the system voltage~~

~~alert at the driver position and pump operator station shall indicate if the system voltage at the battery or at the major load disconnect switch drops below 11.8 V for 12 V nominal systems, 23.6 V for 24 V nominal systems, or 35.4 V for 42 V nominal systems for more than 120 seconds.~~

Statement of Problem and Substantiation for Public Input

10.3.4 - The current wording is not specific enough about where on the apparatus the audible alarm should be heard, or visual alert seen. "on, in, or near" the apparatus leaves this specification open to interpretation. The way it is written could imply that a firefighter on the tip of an aerial ladder should be expected to hear the alert. The proposed wording limits the minimum requirement to two locations, and is consistent with the way the majority of apparatus have been built for decades.

This section implies that the design can either sense the system voltage, or alternately sense whether the alternator is providing a charger. But later in the chapter we specify a low voltage alarm test which means every apparatus must sense the low voltage. Why imply that two methods are available when really they are not. This revision eliminates this inconsistency.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 14:56:30 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-262-NFPA 1900-2026](#)

Statement: 10.3.4 - The current wording is not specific enough about where on the apparatus the audible alarm should be heard, or visual alert seen. "on, in, or near" the apparatus leaves this specification open to interpretation. The way it is written could imply that a firefighter on the tip of an aerial ladder should be expected to hear the alert. The proposed wording limits the minimum requirement to two locations, and is consistent with the way the majority of apparatus have been built for decades.

This section implies that the design can either sense the system voltage, or alternately sense whether the alternator is providing a charger. But later in the chapter we specify a low voltage alarm test which means every apparatus must sense the low voltage. Why imply that two methods are available when really they are not. This revision eliminates this inconsistency.

**Public Input No. 50-NFPA 1900-2024 [Section No. 10.3.5]****10.3.5**

A voltmeter- visual indication of the system voltage shall be mounted on the driver's instrument panel to allow direct observation of the system voltage accessible from the driver's position .

Statement of Problem and Substantiation for Public Input

A separate physical voltmeter is not needed if the voltage is displayed on a screen or some other means.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 15:26:10 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-263-NFPA 1900-2026](#)

Statement: A separate physical voltmeter is not needed if the voltage is displayed on a screen or some other means.

**Public Input No. 69-NFPA 1900-2025 [New Section after 10.4.4.1]****10.4.4.1**

The low voltage batteries shall be be readily accessible for examination, testing and maintenance. Nothing shall terminate at the battery lugs except main power and battery bus connectors. To prevent corrosion, terminal blocks, solenoids and relays shall not be located within the battery box.

Statement of Problem and Substantiation for Public Input

Fire apparatus electrical systems are getting more and more complex, manufactures are terminating more and more on the battery lugs. It makes replacing, annual testing and servicing batteries labor extensive.

Thank you for your consideration,

Jonas Johnsen

Master EVT

Submitter Information Verification

Submitter Full Name: Jonas Johnsen

Organization: Northeast Teller County Fire

Street Address:

City:

State:

Zip:

Submittal Date: Sat Feb 08 16:50:03 EST 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee believes that this design is restrictive and not a minimum standard. The purchaser can request to have this design provided.



Public Input No. 49-NFPA 1900-2024 [Section No. 10.5]

~~10.5 – Temperature Exposure.~~

~~Any alternator, electrical starting device, ignition wiring, distributor, or ignition coil shall be moisture resistant and protected such that it is not exposed to a temperature that exceeds the component manufacturer's recommendations.~~

Statement of Problem and Substantiation for Public Input

This text is obviously from the era of gas engines in fire apparatus. This items on this short list are far from the only components that need to be designed in a manner that they can resist temperature and moisture. It holds true for perhaps half of the parts on a fire truck. Also, it is in the best interest of both the apparatus manufacture and the component supplier to avoid failures due to temperature and moisture to ensure reliability and avoid warranty expenses. Either this list should be expanded to include every relevant component, or, more practically as this PI suggests, eliminated.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 15:13:28 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-264-NFPA 1900-2026](#)

Statement: This text is obviously from the era of gas engines in fire apparatus. This items on this short list are far from the only components that need to be designed in a manner that they can resist temperature and moisture. It holds true for perhaps half of the parts on a fire truck. Also, it is in the best interest of both the apparatus manufacture and the component supplier to avoid failures due to temperature and moisture to ensure reliability and avoid warranty expenses. Either this list should be expanded to include every relevant component, or, more practically as this PI suggests, eliminated.

**Public Input No. 492-NFPA 1900-2025 [Section No. 10.7.7]****10.7.7***

The optical warning system on the fire apparatus shall be capable of at least two separate signaling modes during emergency operations. The two signaling modes may be identical if white or yellow warning lights are not specified on the apparatus.

10.7.7.1

One mode shall signal to drivers and pedestrians that the apparatus is responding to an emergency and is calling for the right-of-way.

10.7.7.2

One mode shall signal that the apparatus is stopped and is blocking the right-of-way.

10.7.7.3

Any optical characteristic changes made within any mode shall meet the minimum requirements of this chapter.

Statement of Problem and Substantiation for Public Input

Currently we are having interpretation issues with UL in the event that yellow or while warning lights are not specified on the apparatus. In this event, the calling for right-of way and blocking right-of-way can appear identical, even though the system is managing them as two separate scenarios.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 14:35:48 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-265-NFPA 1900-2026

Statement: The committee is adding this text to the annex, was part of PI 492 where it was suggested it be added to the main body of the document, however the committee believes it is better suited here in the annex.

**Public Input No. 146-NFPA 1900-2025 [New Section after 10.7.8.4]****10.7.8.5**

If an automatic means is provided to switch some or all rear emergency lights to steady lights when the emergency lights are applied, it shall:

(1) only apply to red lights.

(2) only be active when the optical warning light switch is active.

(3) only be active when the optical warning light system is in the calling for the right-of-way mode.

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
NHTSA_response_on_warning_lights.pdf	NHTSA letter on emergency lights going steady when brakes are applied.	

Statement of Problem and Substantiation for Public Input

There are many emergency vehicles that switch rear red lights to steady when the brakes are applied. This is a very effective messaging mechanism. The problem is that many do this when the emergency lights are not on, which violates both FMVSS 108 since at that point they are not emergency lights, and also violates the NHTSA ruling that allows this to be done specifically under the conditions listed.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 352-NFPA 1900-2025 [New Section after 31.9.7.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 19:57:03 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-266-NFPA 1900-2026

Statement: There are many emergency vehicles that switch rear red lights to steady when the brakes are applied. This is a very effective messaging mechanism. The problem is that many do this when the emergency lights are not on, which violates both FMVSS 108 since at that point they are not emergency lights, and also violates the NHTSA ruling that allows this to be done specifically under the conditions listed.



Public Input No. 51-NFPA 1900-2024 [Section No. 10.7.10]

10.7.10 * –

~~The optical warning devices shall not impair the effectiveness of lighting devices required under 49 CFR 571, FMVSS 108 including headlights, turn signals, clearance lights, and brake lights.~~

Statement of Problem and Substantiation for Public Input

This statement is not measurable. "impair effectiveness" is completely subjective. The annex material suggests that it is the physical proximity of one light to another that can impair the effectiveness, but there is no indication of how close is too close.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 52-NFPA 1900-2024 [Section No. A.10.7.10]	
Public Input No. 52-NFPA 1900-2024 [Section No. A.10.7.10]	
Public Input No. 54-NFPA 1900-2024 [Section No. A.10.7.11]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 15:37:16 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-267-NFPA 1900-2026](#)

Statement: The committee is deleting this text and annex material as this statement is not measurable. "impair effectiveness" is completely subjective. The annex material suggests that it is the physical proximity of one light to another that can impair the effectiveness, but there is no indication of how close is too close.

**Public Input No. 53-NFPA 1900-2024 [Section No. 10.7.11]****10.7.11***

~~The optical warning light systems shall have optical sources on each level and in each zone so that failure of a single optical source does not create a zone without a visible warning signal at a distance of 100 ft (30 m) from the geometric center of the apparatus. Each warning zone shall include at least two optical warning devices .~~

Statement of Problem and Substantiation for Public Input

If you read the annex to this paragraph it talks about the risk of losing a power source or flasher that is supplying multiple lights. This is not how the body text reads. During a FAMA group discussion we had three intelligent individuals all interpret the intent of this wording differently. It was pointed out that there will always be one failure mode where no amount of redundancy will stop the lights from going out - alternator failure. This proposed change provides a simple specification that meets the intend that any single light failure will not leave a zone without a flashing light.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 54-NFPA 1900-2024 [Section No. A.10.7.11]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 15:40:46 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-268-NFPA 1900-2026

Statement: If you read the annex to this paragraph it talks about the risk of losing a power source or flasher that is supplying multiple lights. This is not how the body text reads. During a FAMA group discussion we had three intelligent individuals all interpret the intent of this wording differently. It was pointed out that there will always be one failure mode where no amount of redundancy will stop the lights from going out - alternator failure. This change provides a simple specification that meets the intend that any single light failure will not leave a zone without a flashing light. Updated the annex text to be more clear about the intent of the body text.

**Public Input No. 588-NFPA 1900-2025 [Section No. 10.7.13.1 [Excluding any Sub-Sections]]**

Permissible optical colors or combinations of colors in each zone, within the constraints imposed by applicable laws and regulations, shall be as shown in Table 10.7.13.1.

Table 10.7.13.1 Zone Colors

<u>Color</u>	<u>Calling for Right-of-Way</u>	<u>Blocking Right-of-Way</u>
Red	Any zone	Any zone
Blue	Any zone	Any zone
Yellow	Any zone- except A	Any zone
White	Any zone except C	Not permitted
Green	Any zone	Any zone

Statement of Problem and Substantiation for Public Input

In the last revision cycle, the Technical Committee added green as a permissible color option in any zone, with the explicit caveat that green photometry could not contribute toward meeting the required system performance. The rationale was to provide flexibility for jurisdictions that permit use of green, while ensuring that the baseline system remained compliant with the required red/blue/white performance standards.

This same logic applies to amber (yellow). Amber is already widely recognized and legally permissible under FMVSS 108 for use on motor vehicles in any orientation, including forward-facing. There is no federal prohibition on the presence of amber lights while an emergency vehicle is responding. However, the current NFPA 1900 language ("any zone except A" during right-of-way response) has the unintended consequence of requiring agencies to disable forward-facing amber conspicuity devices (e.g., traffic advisors, auxiliary beacons, or integrated directional systems) that could otherwise supplement visibility without reducing the effectiveness of the compliant base system.

The purpose of the warning light system is to indicate the presence and movement of an emergency vehicle. While amber by itself may not convey "emergency response" in the same way as red or blue, its additive use increases conspicuity, particularly in complex traffic environments or mixed lighting conditions. By creating a structure parallel to green—permitting amber in all zones, but not allowing its photometry to contribute toward required Zone A compliance—the standard would continue to ensure that the base system meets minimum performance criteria while allowing agencies the flexibility to add auxiliary amber conspicuity measures.

This revision prevents an unnecessary reduction in conspicuity that occurs when agencies are forced to turn off amber devices solely due to prescriptive language, even though those devices pose no detriment to the core warning system. Aligning amber with the treatment of green maintains consistency within the standard, reflects practical realities of FMVSS 108, and supports the overarching goal of maximizing emergency vehicle visibility and safety.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 591-NFPA 1900-2025 [Section No. 10.7.13.1.1]	

Submitter Information Verification

Submitter Full Name: Samuel Massa

Organization: HiViz Lighting Inc

Street Address:

City:

State:

Zip:

Submission Date: Thu Sep 04 17:07:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-270-NFPA 1900-2026

Statement: In the last revision cycle, the Technical Committee added green as a permissible color option in any zone, with the explicit caveat that green photometry could not contribute toward meeting the required system performance. The rationale was to provide flexibility for jurisdictions that permit use of green, while ensuring that the baseline system remained compliant with the required red/blue/white performance standards.

This same logic applies to amber (yellow). Amber is already widely recognized and legally permissible under FMVSS 108 for use on motor vehicles in any orientation, including forward-facing. There is no federal prohibition on the presence of amber lights while an emergency vehicle is responding. However, the current NFPA 1900 language ("any zone except A" during right-of-way response) has the unintended consequence of requiring agencies to disable forward-facing amber conspicuity devices (e.g., traffic advisors, auxiliary beacons, or integrated directional systems) that could otherwise supplement visibility without

reducing the effectiveness of the compliant base system.

The purpose of the warning light system is to indicate the presence and movement of an emergency vehicle. While amber by itself may not convey “emergency response” in the same way as red or blue, its additive use increases conspicuity, particularly in complex traffic environments or mixed lighting conditions. By creating a structure parallel to green—permitting amber in all zones, but not allowing its photometry to contribute toward required Zone A compliance—the standard would continue to ensure that the base system meets minimum performance criteria while allowing agencies the flexibility to add auxiliary amber conspicuity measures.

This revision prevents an unnecessary reduction in conspicuity that occurs when agencies are forced to turn off amber devices solely due to prescriptive language, even though those devices pose no detriment to the core warning system. Aligning amber with the treatment of green maintains consistency within the standard, reflects practical realities of FMVSS 108, and supports the overarching goal of maximizing emergency vehicle visibility and safety.

**Public Input No. 591-NFPA 1900-2025 [Section No. 10.7.13.1.1]****10.7.13.1.1**

The optical energy provided by green optical sources shall not be included in the calculations of the zone's total optical power or meeting the requirements for any required lights.

10.7.13.1.2

The optical energy provided by yellow optical sources shall not be included in the calculations of Zone A's total optical power or meeting the requirements for any required lights, while calling for right of way.

Statement of Problem and Substantiation for Public Input

In the last revision cycle, the Technical Committee added green as a permissible color option in any zone, with the explicit caveat that green photometry could not contribute toward meeting the required system performance. The rationale was to provide flexibility for jurisdictions that permit use of green, while ensuring that the baseline system remained compliant with the required red/blue/white performance standards.

This same logic applies to amber (yellow). Amber is already widely recognized and legally permissible under FMVSS 108 for use on motor vehicles in any orientation, including forward-facing. There is no federal prohibition on the presence of amber lights while an emergency vehicle is responding. However, the current NFPA 1900 language ("any zone except A" during right-of-way response) has the unintended consequence of requiring agencies to disable forward-facing amber conspicuity devices (e.g., traffic advisors, auxiliary beacons, or integrated directional systems) that could otherwise supplement visibility without reducing the effectiveness of the compliant base system.

The purpose of the warning light system is to indicate the presence and movement of an emergency vehicle. While amber by itself may not convey "emergency response" in the same way as red or blue, its additive use increases conspicuity, particularly in complex traffic environments or mixed lighting conditions. By creating a structure parallel to green—permitting amber in all zones, but not allowing its photometry to contribute toward required Zone A compliance—the standard would continue to ensure that the base system meets minimum performance criteria while allowing agencies the flexibility to add auxiliary amber conspicuity measures.

This revision prevents an unnecessary reduction in conspicuity that occurs when agencies are forced to turn off amber devices solely due to prescriptive language, even though those devices pose no detriment to the core warning system. Aligning amber with the treatment of green maintains consistency within the standard, reflects practical realities of FMVSS 108, and supports the overarching goal of maximizing emergency vehicle visibility and safety.

Related Public Inputs for This Document**Related Input**

Public Input No. 588-NFPA 1900-2025 [Section No. 10.7.13.1 [Excluding any Sub-Sections]]

Relationship

Related content - updated table and description below

Submitter Information Verification

Submitter Full Name: Samuel Massa

Organization: HiViz Lighting Inc

Street Address:

City:

State:

Zip:

Submission Date: Thu Sep 04 17:22:53 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-271-NFPA 1900-2026

Statement: In the last revision cycle, the Technical Committee added green as a permissible color option in any zone, with the explicit caveat that green photometry could not contribute toward meeting the required system performance. The rationale was to provide flexibility for jurisdictions that permit use of green, while ensuring that the baseline system remained compliant with the required red/blue/white performance standards.

This same logic applies to amber (yellow). Amber is already widely recognized and legally permissible under FMVSS 108 for use on motor vehicles in any orientation, including forward-facing. There is no federal prohibition on the presence of amber lights while an emergency vehicle is responding. However, the current NFPA 1900 language ("any zone except A" during right-of-way response) has the unintended consequence of requiring agencies to disable forward-facing amber conspicuity devices (e.g., traffic advisors, auxiliary beacons, or integrated directional systems) that could otherwise supplement visibility without reducing the effectiveness of the compliant base system.

The purpose of the warning light system is to indicate the presence and movement of an emergency vehicle. While amber by itself may not convey "emergency response" in the same way as red or blue, its additive use increases conspicuity, particularly

in complex traffic environments or mixed lighting conditions. By creating a structure parallel to green—permitting amber in all zones, but not allowing its photometry to contribute toward required Zone A compliance—the standard would continue to ensure that the base system meets minimum performance criteria while allowing agencies the flexibility to add auxiliary amber conspicuity measures.

This revision prevents an unnecessary reduction in conspicuity that occurs when agencies are forced to turn off amber devices solely due to prescriptive language, even though those devices pose no detriment to the core warning system. Aligning amber with the treatment of green maintains consistency within the standard, reflects practical realities of FMVSS 108, and supports the overarching goal of maximizing emergency vehicle visibility and safety.



Public Input No. 55-NFPA 1900-2024 [Sections 10.7.14, 10.7.15]

Sections 10.7.14, 10.7.15

10.7.14* Requirements for Large Apparatus. Optical Warning Devices

10.7.14.1–

If the apparatus has a bumper-to-bumper length of 25 ft (7.6 m) or more or has an optical center on any optical warning device greater than 8 ft 6 in. (2.6 m) above level ground, the requirements of 10.7.14.2 through 10.7.14.6 shall apply.

10.7.14.2 – Upper-Level Optical Warning Devices.

10.7.14.2.1

To define the clearance lines of the vehicle, the optical center of the upper Upper -level optical warning devices shall be mounted as high and as close to the corner points of the apparatus as is practicable.

10.7.14.2.1.2

The
An upper-level optical warning
devices shall not be mounted above the maximum height, specified by the
device

manufacturer, that gives an
intensity

value
measured at

4 ft

4 ft (1.

2 m

2 m) above level ground and at

100 ft

100 ft (30.

5 m

5 m) distance from the optical warning device

of less than 50 percent of that required at the optical center.
shall be at least 50% of the intensity at optical center height above level ground at 100ft (30.5 m)

10.7.14.3 – 2 – Lower-Level Optical Warning Devices.

10.7.14.3.1

To define the clearance lines of the apparatus, the optical center of the lower Lower -level optical warning devices in the front of the vehicle shall be mounted on or forward of the front axle centerline and as close to the front corner points of the apparatus as is practicable.

10.7.14.3.2

The optical center of the lower Lower -level optical warning devices at the rear of the vehicle shall be mounted on or behind the rear axle centerline and as close to the rear corners of the apparatus as is practicable.

10.7.14.

3

2.3

–

The optical center of any

One or more lower-level device optical warning devices shall be between 18 in. and 62 in. (460 mm and 1600 mm) above level ground, visible from the front of the apparatus.

10.7.14.

4– Midship Optical Warning Devices.

10.7.14.4.1 –

A midship optical warning device shall be mounted on both the right and the left sides of the apparatus if the distance between the front and rear lower-level optical devices exceeds 25 ft (7.6 m) at the optical center.

2.4 –

One or more lower-level optical warning devices shall be visible from the side of the apparatus.

10.7.14.3 – Midship Optical Warning Devices.

10.7.14.4.3.2.1

~~Additional midship- Midship lower level~~ optical warning devices shall be required, where necessary, to maintain a horizontal distance between the centers of adjacent lower-level optical warning devices of 25 ft (7.6 m) or less.

10.7.

~~14.4.3-~~

15 - Optical Power Requirements

10.7.15.1

For each Mode of Operation, the combined optical power of all the optical sources shall meet or exceed the zone total optical power requirements shown in tables 10.7.15.1 and 10.7.15.2

10.7.15.2

Individual Photometric points must meet or exceed that shown in tables 10.7.15.1 and 10.7.15.2

10.7.15.3 - Large Apparatus

10.7.15.3.1

The optical center of any

midship

lower -

mounted optical warning device

level device on apparatus 25 ft (7.6 m) or more in length shall be between 18 in. and 62 in. (460 mm and 1600 mm) above level ground.

10.7.14.5 * -

For each operating mode, the combined optical power of all the optical sources shall

15.3.2 -

Any apparatus 25 ft (7.6 m) or more in length shall meet or exceed the zone total optical power requirements shown in Table 10.7.14.5.

Table 10.7.

14

15.

5 Minimum

1 Minimum Optical Power Requirements for Large Apparatus

--

Mode of Operation				
Calling for Right-of-Way				
-				
Blocking Right-of-Way				
Zone	Level	H Total	At Any H Point	At Any Point 5 Degrees Up or 5 Degrees Down from H
-				
	H Total	At Any H Point	At Any Point 5 Degrees Up or 5 Degrees Down from H	
A	Upper	1,000,000	10,000	3,500
-				
	400,000	10,000	3,500	
B	Upper	400,000	10,000	3,500
-				
	400,000	10,000	3,500	
C	Upper	400,000	10,000	3,500
-				
	800,000	10,000	3,500	
D	Upper	400,000	10,000	3,500
-				
	400,000	10,000	3,500	
A	Lower	150,000	3,750	1,300
-				
	150,000	3,750	1,300	
B	Lower	150,000	3,750	1,300
-				
	150,000	3,750	1,300	
C	Lower	150,000	3,750	1,300
-				
	150,000	3,750	1,300	
D	Lower	150,000	3,750	1,300
-				
	150,000	3,750	1,300	
		150,000	3,750	1,300

Notes:

(1) All values are in candela-seconds/minute.

(2) H = Horizontal plane passing through the optical center.

(3) The values in the H Total columns are the total of 19 data point values for each light, with data points on the boundary between zones counted in both zones.

10.7.

14.6

No individual photometric measurement point shall be less than that shown in Table 10.7.14.5.

10.7.

15

* – Requirements for Small Apparatus.

10.7.15.1 –

If the apparatus has a bumper-to-bumper length of less than 25 ft (7.6 m) and has the optical center of all optical warning devices at 8 ft 6 in. (2.6 m) or less above level ground, the requirements of 10.7.15.2 through 10.7.15.5 shall apply.

4 – Small Apparatus**10.7.15.**

2– Upper-Level Optical Warning Devices.

10.7.15.2.1 –

The upper-level optical warning devices shall be mounted as high as practicable, but not over 8 ft 6 in. (2.6 m), at the optical center.

10.7.15.2.2 * –

The upper-level optical warning devices shall consist of a single optical warning device providing 360 degrees of conspicuity or a combination of optical devices creating 360 degrees of conspicuity.

10.7.15.3 – Lower-Level Optical Warning Devices.

10.7.15.3.1 –

One or more lower-level optical warning devices shall be visible from the front and the side of the apparatus.

10.7.15.3.2 –

To define the front clearance lines of the vehicle, the optical center of the lower-level optical warning devices in the front of the vehicle shall be mounted on or forward of the front wheel centerline and as close to the front corner points of the apparatus as is practicable.

10.7.15.3.3 –

The optical center of the device(s)

4.1

The optical center of any lower-level device on apparatus less than 25 ft (7.6 m) in length shall be between 18 in. and 48 in. (460 mm and 1220 mm) above level ground.

10.7.15.4

—

For each operating mode, the combined optical power of all the optical sources shall

2

Any apparatus less than 25 ft (7.6 m) shall meet or exceed the

zone's total

optical power requirements shown in Table 10.7.15.4.

Table 10.7.15.

4 Minimum

2 Minimum Optical Power Requirements for Small Apparatus

Mode of Operation				
Calling for Right-of-Way				
Blocking Right-of-Way				
Zone	Level	H Total	At Any H Point	At Any Point 5 Degrees Up or 5 Degrees Down from H
H Total				
At Any H Point				
At Any Point 5 Degrees Up or 5 Degrees Down from H				
A	Upper	1,000,000	10,000	3,500
B				
		400,000	10,000	3,500
	Upper	200,000	8,000	3,500
C				
		200,000	8,000	3,500
	Upper	400,000	10,000	3,500
D				
		800,000	10,000	3,500
	Upper	200,000	8,000	3,500
A				
		200,000	8,000	3,500
	Lower	150,000	3,750	1,300
B				
		150,000	3,750	1,300
	Lower	75,000	1,875	650
C				
		75,000	1,875	650
	Lower	0	0	0
D				
		0	0	0
	Lower	75,000	1,875	650
75,000				
1,875				
650				

Notes:

(1) All values are in candela-seconds/minute.

(2) H = Horizontal plane passing through the optical center.

(3) The values in the H Total columns are the total of 19 data point values for each light, with data points on the boundary between zones counted in both zones.

10.7.15.5 –

No individual photometric measurement point shall be less than that shown in Table 10.7.15.4.

Statement of Problem and Substantiation for Public Input

Rewrite and reorganize for clarity. Most of the text for small vs large apparatus is simply repeated in these sections. The changes reduce the words you need to read by about half, and those items that are specific to apparatus size become more apparent. During the review we also found two items between small and large apparatus that had been overlooked in previous revisions. No substantive changes to the requirements are made.

10.7.14.1, 10.7.15.1. The reference to 8 ft 6 inches was eliminated because we already state that the lights should be as high as practical for both small and large apparatus. The math was therefore unnecessary. The photometric output of the upper warning devices remains but was clarified.

10.7.15.3.1 was eliminated. The text requiring seeing two zones at once is eliminated for three reasons: 1)The text only applied to small vehicles the way it was written. 2)The statement could conflict with zone measurement. 3) There was really no problem with the way apparatus are designed that we needed this statement to solve.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 56-NFPA 1900-2024 [Sections A.10.7.14, A.10.7.14.5, A.10.7.15, A.10.7.15.2.2]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 15:56:29 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-273-NFPA 1900-2026

Statement: Rewrite and reorganize for clarity. Most of the text for small vs large apparatus is simply repeated in these sections. The changes reduce the words you need to read by about half, and those items that are specific to apparatus size become more apparent. During the review we also found two items between small and large apparatus that had been overlooked in previous revisions. No substantive changes to the requirements are made. 10.7.14.1, 10.7.15.1. The reference to 8 ft 6 inches was eliminated because we already state that the lights should be as high as practical for both small and large apparatus. The math was therefore unnecessary. The photometric output of the upper warning devices remains but was clarified. 10.7.15.3.1 was eliminated. The text requiring seeing two zones at once is eliminated for three reasons: 1)The text only applied to small vehicles the way it was written. 2)The statement could conflict with zone measurement. 3) There was really no problem with the way apparatus are designed that we needed this statement to solve.

Eliminate sections where the advent of LEDs has changed the typical power values. Correct paragraph numbering to match revision from linked PI 55.

Correct a reference to "section 13.6". We could find no section 13.6 that had any rational connection. The section number is replaced with the term "Zone Totals" which fits with the rest of the sentence.

**Public Input No. 147-NFPA 1900-2025 [Section No. 10.7.16.1]****10.7.16.1** Mechanical and Environmental Test.**10.7.16.1.1** –

All optical warning devices and components shall be tested in accordance with SAE J845, *Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles*, and comply with the following performance requirements of that standard:

- (1) Vibration
- (2) Moisture
- (3) Dust
- (4) Corrosion
- (5) High temperature
- (6) Low temperature
- (7) Durability
- (8) Warpage

Statement of Problem and Substantiation for Public Input

The number 10.7.16.1.1 is unnecessary. All the other parallel numbers were eliminated in the previous revision.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 20:20:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-274-NFPA 1900-2026](#)

Statement: The number 10.7.16.1.1 is unnecessary. All the other parallel numbers were eliminated in the previous revision.

**Public Input No. 595-NFPA 1900-2025 [New Section after 10.8]****10.9 Digital Alert Warning System**

10.9.1 A digital alert warning system shall be provided on each fire apparatus.

10.9.2 The system shall comply with the applicable requirements for digital alerting in NFPA 950, *Standard for Data Development and Exchange for the Fire Service*.

10.9.3 The system shall activate and deactivate automatically with the apparatus warning system, with optional manual override available to the driver.

10.9.4 The system shall not interfere with the operation of audible or visual warning devices required elsewhere in this standard.

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
EDC-6_Factsheet_TIM_Responder-to-Vehicle_Alerts_v2_508.pdf	FHA datasheet	

Statement of Problem and Substantiation for Public Input

Digital alerting has been discussed extensively by this committee. Despite continuous advances in audible and visual warning systems, collision rates involving emergency vehicles have not shown significant reduction. Lights and sirens remain required by this standard, yet their effectiveness is limited by modern vehicle design, road noise, distracted driving, and the growing presence of nonhuman drivers that neither effectively and reliably "see" lights nor "hear" sirens.

Digital alerting represents the next evolution of warning technology. It is already addressed in NFPA 950, Standard for Data Development and Exchange for the Fire Service, which defines requirements for responder-to-vehicle notifications and interoperability with navigation and connected-vehicle platforms. Referencing NFPA 950 ensures consistent performance requirements without prescribing vendor-specific solutions.

The Federal Highway Administration recognizes responder-to-vehicle (R2V) alerts as part of its Next-Generation Traffic Incident Management (NextGen TIM) initiative. Field deployments have documented measurable benefits:

- The Pennsylvania Turnpike reported a reduction in roadside crashes involving agency vehicles from 30 in 2018 to zero in 2020 after equipping 158 vehicles with digital alert capability.
- In Indiana, queue warning trucks equipped with digital alerts reduced hard braking among approaching vehicles.
- Pilot programs in North Carolina demonstrated integration with service patrols, providing motorists advance notice to slow down or change lanes depending on activated warning signals.

This capability is now supported by multiple providers, including emergency warning manufacturers (e.g., HAAS Alert, Whelen, HiViz, Icone, ECCO) as well as major technology firms such as Qualcomm, Samsara, Cradlepoint, etc. Many apparatus manufacturers already include digital alerting as standard equipment. Deployment has expanded, costs have decreased, and interoperable platforms are available across all jurisdictions in all 50 states.

From a cost perspective, the argument is even clearer. A modern fire apparatus represents a \$1–2 million investment. The warning light and siren package typically accounts for roughly 2 percent of that cost, or more than \$20,000. By contrast, digital alerting is most often included at no cost or offered as a subscription of about \$500 per year- making it twenty to eighty times less expensive than lights and sirens, yet arguably more effective in a modern connected world. The cost of this technology is negligible in proportion to the overall apparatus investment, while the safety benefits are measurable and significant.

The committee acknowledged this technology in the last revision by placing Digital Alert Warning Systems in the Annex. Moving it into the body of the standard reflects current practice, aligns NFPA 1900 with NFPA 950, and ensures consistency across new apparatus.

To continue mandating lights and sirens while omitting digital alerting is to embrace tradition over evidence. NFPA 1900 exists to establish minimum requirements that improve safety; refusing to require technology shown to reduce collisions is a direct violation of that purpose. This committee has a duty to adopt digital alerting or, failing that, to defend to the bereaved families of responders lost on the roadway why an available, effective safeguard was consciously excluded.

https://ops.fhwa.dot.gov/tim/docs/EDC-6_Factsheet_TIM_Responder-to-Vehicle%20Alerts_v2_508.pdf
https://www.fhwa.dot.gov/innovation/everydaycounts/edc_6/nextgen_tim.cfm

Submitter Information Verification

Submitter Full Name: Samuel Massa

Organization: HiViz Lighting Inc

Street Address:

City:

State:

Zip:

Submittal Date: Thu Sep 04 17:48:36 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-399-NFPA 1900-2026](#)

Statement: Digital alerting has been discussed extensively by this committee. Despite continuous advances in audible and visual warning systems, collision rates involving emergency vehicles have not shown significant reduction. Lights and sirens remain required by this standard, yet their effectiveness is limited by modern vehicle design, road noise, distracted driving, and the growing presence of nonhuman drivers that neither effectively and reliably "see" lights nor "hear" sirens.

Digital alerting represents the next evolution of warning technology. It is already addressed in NFPA 950, Standard for Data Development and Exchange for the Fire Service, which defines requirements for responder-to-vehicle notifications and interoperability with navigation and connected-vehicle platforms. Referencing NFPA 950 ensures consistent performance requirements without prescribing vendor-specific solutions.

The Federal Highway Administration recognizes responder-to-vehicle (R2V) alerts as part of its Next-Generation Traffic Incident Management (NextGen TIM) initiative. Field deployments have documented measurable benefits:

- The Pennsylvania Turnpike reported a reduction in roadside crashes involving agency vehicles from 30 in 2018 to zero in 2020 after equipping 158 vehicles with digital alert capability.
- In Indiana, queue warning trucks equipped with digital alerts reduced hard braking among approaching vehicles.
- Pilot programs in North Carolina demonstrated integration with service patrols, providing motorists advance notice to slow down or change lanes depending on activated warning signals.

This capability is now supported by multiple providers, including emergency warning manufacturers (e.g., HAAS Alert, Whelen, HiViz, Icone, ECCO) as well as major technology firms such as Qualcomm, Samsara, Cradlepoint, etc. Many apparatus manufacturers already include digital alerting as standard equipment. Deployment has expanded, costs have decreased, and interoperable platforms are available across all jurisdictions in all 50 states.

From a cost perspective, the argument is even clearer. A modern fire apparatus represents a \$1–2 million investment. The warning light and siren package typically accounts for roughly 2 percent of that cost, or more than \$20,000. By contrast, digital alerting is most often included at no cost or offered as a subscription of about \$500 per year- making it twenty to eighty times less expensive than lights and sirens, yet arguably more effective in a modern connected world. The cost of this technology is negligible in proportion to the overall apparatus investment, while the safety benefits are measurable and significant.

The committee acknowledged this technology in the last revision by placing Digital Alert Warning Systems in the Annex. Moving it into the body of the standard reflects current practice, aligns NFPA 1900 with NFPA 950, and ensures consistency across new apparatus.

To continue mandating lights and sirens while omitting digital alerting is to embrace tradition over evidence. NFPA 1900 exists to establish minimum requirements that improve safety; refusing to require technology shown to reduce collisions is a direct violation of that purpose. This committee has a duty to adopt digital alerting or, failing that, to defend to the bereaved families of responders lost on the roadway why an available, effective safeguard was consciously excluded

**Public Input No. 381-NFPA 1900-2025 [Section No. 10.8]****10.8 Audible Warning Devices.****10.8.1**

~~Audible warning equipment in the form of at~~ At least one automotive traffic horn and one shall be provided.

10.8.2 Sirens**10.8.2.1**

~~For structural fire apparatus,~~ one electric or electronic siren shall be provided.

10.8.2.2

Wildland shall meet one of the following criteria:

(1

~~.1 The siren~~

) Have one electric or electronic siren.

(2) If the apparatus is not equipped to call for or block right-of-way on public roads, have a sign affixed on the dashboard that reads as follows: "This apparatus is not equipped to call for or block right-of-way on public highways."

10.8.2.3

If a siren is provided, the siren manufacturer shall certify the siren as meeting the requirements of SAE J1849, *Emergency Vehicle Sirens*.

10.8.1 2 .2 4 *

~~A means~~ If a siren is provided, a means shall be provided to allow the activation of the siren within convenient reach of the driver.

10.8.2 .5

If the vehicle has a siren, safety sign FAMA42, which warns of the dangers of siren noise, shall be located on the inside of the driver cab door.

10.8.3

Where furnished, air horns, electric siren(s), and electronic siren speaker(s) shall be mounted as low and as far forward on the apparatus as is practicable.

10.8.3 4

Audible warning equipment shall not be mounted on the roof of the apparatus.

10.8.4

~~Safety sign FAMA42, which warns of the dangers of siren noise, shall be located on the inside of the driver cab door.~~

Statement of Problem and Substantiation for Public Input

Put back the exception for wildland fire apparatus sirens got lost in the consolidation of 1901 and 1902.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ELECTRICAL TASK GROUP FOR NFPA 1900.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 383-NFPA 1900-2025 [Section No. A.10.8.1.2]	
Public Input No. 383-NFPA 1900-2025 [Section No. A.10.8.1.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 17 15:17:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-275-NFPA 1900-2026

Statement: Put back the exception for wildland fire apparatus sirens got lost in the consolidation of 1901 and 1906 and to adjust the annex A material to the correct section of text.

**Public Input No. 449-NFPA 1900-2025 [Section No. 10.8.1 [Excluding any Sub-Sections]]**

Audible warning equipment in the form of at least one automotive traffic horn and one shall be provided. If the vehicle is designated to call for or block right-of-way on a public roads, one electric or electronic siren shall be provided.

Statement of Problem and Substantiation for Public Input

Not all wildland fire vehicles are equipped of calling for right of way or blocking on a public highway. Therefore they would not need to be equipped with a siren.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 15:20:30 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-275-NFPA 1900-2026](#)

Statement: Put back the exception for wildland fire apparatus sirens got lost in the consolidation of 1901 and 1906 and to adjust the annex A material to the correct section of text.

**Public Input No. 592-NFPA 1900-2025 [Section No. 10.9.5.1]****10.9.5.1**

Each engine compartment and pump compartment shall ~~have a light of at least 20 candlepower (250 lumens)~~ be illuminated .

Statement of Problem and Substantiation for Public Input

The current text specifies "20 candlepower (250 lumens)." This is problematic for two reasons:

1. Non-equivalency of terms. Candlepower (candela) and lumens measure fundamentally different lighting properties. Candlepower refers to luminous intensity in a given direction (cd), while lumens measure total luminous flux. They do not directly convert, unlike units such as feet and meters. The text as written incorrectly implies interchangeability between these measurements.

2. Inconsistent treatment across the section. Section 10.9.5.2 only requires "illumination" without further substantiation. Section 10.9.5.3 requires illumination of compartments greater than 4 ft³, but it does so by specifying functional illumination levels (e.g., 2 fc/20 lx on the floor of the compartment), not a fixed candlepower or lumen value. This approach is more practical, as it measures delivered light where it is needed, rather than prescribing output ratings that do not account for fixture design, beam pattern, or mounting orientation.

A simpler, more consistent requirement in alignment with 10.5.9.2, is to state that the engine compartment and pump compartment "shall be illuminated." This avoids locking the standard into outdated or technically inaccurate unit conversions and aligns with NFPA's general approach of requiring functional outcomes rather than prescribing non-comparable unit specifications.

This change eliminates a technical error, harmonizes with related sections, and ensures the standard remains practical and enforceable.

Submitter Information Verification

Submitter Full Name: Samuel Massa

Organization: HiViz Lighting Inc

Street Address:

City:

State:

Zip:

Submittal Date: Thu Sep 04 17:32:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-276-NFPA 1900-2026

Statement: The current text specifies "20 candlepower (250 lumens)." This is problematic for two reasons: 1. Non-equivalency of terms. Candlepower (candela) and lumens measure fundamentally different lighting properties. Candlepower refers to luminous intensity in a given direction (cd), while lumens measure total luminous flux. They do not directly convert, unlike units such as feet and meters. The text as written incorrectly implies interchangeability between these measurements. 2. Inconsistent treatment across the section. Section 10.9.5.2 only requires "illumination" without further substantiation. Section 10.9.5.3 requires illumination of compartments greater than 4 ft³, but it does so by specifying functional illumination levels (e.g., 2 fc/20 lx on the floor of the compartment), not a fixed candlepower or lumen value. This approach is more practical, as it measures delivered light where it is needed, rather than prescribing output ratings that do not account for fixture design, beam pattern, or mounting orientation. A simpler, more consistent requirement in alignment with 10.5.9.2, is to state that the engine compartment and pump compartment "shall be illuminated." This avoids locking the standard into outdated or technically inaccurate unit conversions and aligns with NFPA's general approach of requiring functional outcomes rather than prescribing non-comparable unit specifications. This change eliminates a technical error, harmonizes with related sections, and ensures the standard remains practical and enforceable.

**Public Input No. 593-NFPA 1900-2025 [Section No. 10.9.6]****10.9.6 – Switching-**

~~Switches for all work lighting on structural fire apparatus shall be readily accessible.~~

Statement of Problem and Substantiation for Public Input

This is difficult to measure, and ought to be up to the purchaser to decide where or if the device is switched. Readily accessible... by who? the operator? the IC? the maintenance crew? Recommend strike all together

Submitter Information Verification

Submitter Full Name: Samuel Massa

Organization: HiViz Lighting Inc

Street Address:

City:

State:

Zip:

Submission Date: Thu Sep 04 17:36:16 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-277-NFPA 1900-2026](#)

Statement: The committee is deleting this as this is difficult to measure, and ought to be up to the purchaser to decide where or if the device is switched. Readily accessible... by who? the operator? the IC? the maintenance crew?

**Public Input No. 594-NFPA 1900-2025 [Section No. 10.9.7]****10.9.7 – Protection.**

The work lights on structural fire apparatus shall be arranged or protected to minimize accidental breakage.

Statement of Problem and Substantiation for Public Input

In practice, this causes confusion at manufacturers of apparatus. Absent a measurement, this is not something easy to define or qualify during build or testing. Is an all-aluminum fixture required to be behind an aluminum shield? What makes it durable enough to "prevent accidental damage"? Recommend to strike.

Submitter Information Verification

Submitter Full Name: Samuel Massa

Organization: HiViz Lighting Inc

Street Address:

City:

State:

Zip:

Submission Date: Thu Sep 04 17:37:35 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-278-NFPA 1900-2026](#)

Statement: In practice, this causes confusion at manufacturers of apparatus. Absent a measurement, this is not something easy to define or qualify during build or testing. Is an all-aluminum fixture required to be behind an aluminum shield? What makes it durable enough to "prevent accidental damage"?

**Public Input No. 57-NFPA 1900-2024 [Section No. 10.10]****10.10 Hazard Light Features Not Stowed Alert .**

~~Hazard light requirements-~~ This subsection shall apply to structural fire apparatus only.

10.10.1

~~A red flashing or rotating light, located in the driving compartment, shall be illuminated automatically whenever the apparatus's parking brake is not fully engaged-~~ visual and audible signal shall alert the driver if the park brake is released and any of the following conditions exist:

- (1) Any driver, passenger, or equipment compartment door is not closed.
- (2) Any ladder or equipment rack is not in the stowed position.
- (3) The stabilizer system is not in its stowed position.
- (4) The powered light tower is not stowed.
- (5) Any other ~~device permanently attached to the apparatus is open, extended,~~ feature is extended or deployed in a manner that is likely to cause damage ~~to the apparatus-~~ if the apparatus is moved placed in motion .

10.10.2

~~Compartments-~~ This subsection shall not apply to compartments meeting all of the following conditions- ~~shall be permitted to be exempt from the requirements of 10 . 10.1:~~

- (1) The usable volume is less than or equal to 4 ft³ (0.1 m³).
- (2) The compartment has an opening less than or equal to 144 in.² (92,900 mm²).
- (3) The open door does not extend sideways beyond the mirrors or up above the top of the fire apparatus.
- (4) All equipment in the compartment is restrained so that nothing can fall out if the door is open while the apparatus is moving.

10.10.3*

~~Subsection- 10.10.1 -~~ This subsection shall not apply to the following features :

- (1) Manually raised pole lights with an extension of less than 5 ft (1.5 m)
- (2) Compartments located in the front bumper
- (3) Compartments mounted on an aerial device or turntable that would not ~~affect the structure or operation of the aerial device if the compartment door was left open while the apparatus was moved~~

10.10.4 –

The hazard light shall be marked with a sign that reads “Do Not Move Apparatus When Light Is On.”

- (1) increase the over-all height or width of the apparatus.

Statement of Problem and Substantiation for Public Input

Re-named from Hazard Light to Features Not Stowed light. Avoid confusion since the Hazard Light name is used in automotive terms to mean the flashing hazard light required by FMVSS 108.

Reworded the subsection requirements for conciseness and consistency

Deleted the requirement for the light to be labeled with a sign. Many modern apparatus show a visual indication on a display screen of exactly which door is open or which feature is ajar. This is much more helpful than the red light and sign specified by the original authors of this standard.

Added a requirement for an audible alert in addition to the visual alert. This is something the majority of the apparatus manufacturers do already and is a reasonable part of a driver alert.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 379-NFPA 1900-2025 [Section No. 21.14.2.9]	
Public Input No. 380-NFPA 1900-2025 [Section No. A.10.10.3]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Thu Dec 26 08:40:03 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-279-NFPA 1900-2026](#)

Statement: Re-named from Hazard Light to Features Not Stowed light. Avoid confusion since the Hazard Light name is used in automotive terms to mean the flashing hazard light required by FMVSS 108. Reworded the subsection requirements for conciseness and consistency Deleted the requirement for the light to be labeled with a sign. Many modern apparatus show a visual indication on a display screen of exactly which door is open or which feature is ajar. This is much more helpful than the red light and sign specified by the original authors of this standard. Added a requirement for an audible alert in addition to the visual alert. This is something the majority of the apparatus manufacturers do already and is a reasonable part of a driver alert.

**Public Input No. 317-NFPA 1900-2025 [Section No. 10.11]****10.11*** Backup Devices.**10.11.1**

An electric or electronic backup alarm shall be provided that meets the Type D (87 dBA) requirements of SAE J994, *Alarm — Backup — Electric, Laboratory Performance Testing*.

10.11.2

A rear-view visibility system shall be provided that, upon placing the vehicle transmission into reverse, allows the vehicle operator to visibly see an area no less than 10 ft × 20 ft (3 m × 6 m) directly behind the vehicle.

10.11.2.1*

The rear-view visibility system shall not include an audio feature that transmits sound from the rear of the vehicle into the cab occupant compartment.

Statement of Problem and Substantiation for Public Input**A10.11.2.1**

Some back-up camera system may be offered with an audio pick-up that allows the operator in the cab to hear what is going on behind the vehicle. While this offering has good intentions, it is not practical in conjunction with 10.11.1 that requires a pedestrian alert backup alarm. The mic will pick up the backup alarm over any other noise at the rear of the vehicle. The alarm coming over the cab speaker will cause a distraction and annoyance to the operator and could tempt them to disconnect the alarm.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document**Related Input****Relationship**

Public Input No. 58-NFPA 1900-2024 [Section No. 10.11]

Public Input No. 318-NFPA 1900-2025 [New Section after A.10.11]

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jun 27 08:29:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-280-NFPA 1900-2026

Statement: Proposed addition allows for fire departments to meet local ordinances in a way that avoids the risk of the backup alarm being removed or bypassed permanently. Removed the backup camera field of view requirement because the way it is written is meaningless. There is nothing that specifies where the measurements are to be taken (on the ground horizontally, or vertically at some distance behind the vehicle). Nor do the values indicate which direction to take each measurement (width or height, or distance back, etc.) FMVSS 111 specifies field of view through a complex test of specific sized objects placed behind the vehicle. We could refer to this FMVSS requirement for passenger cars, or alternatively we could use the FMVSS requirement for school bus. But from a practical standpoint fire apparatus manufacturers are going to install commercially available camera systems that are likely to meet one or the other already. There is no FMVSS requirement for back-up camera field of view for heavy truck since a backup camera is not a heavy truck requirement.

The added annex item provides the explanation for why the back-up camera should not include a microphone feature.

**Public Input No. 58-NFPA 1900-2024 [Section No. 10.11]****10.11*** Backup Devices.**10.11.1**

An electric or electronic backup alarm shall be provided that meets the Type D (87 dBA) requirements of SAE J994, *Alarm — Backup — Electric, Laboratory Performance Testing*.

10.11. 1.1

If a backup alarm inhibit control is provided it shall reset the alarm to the active state whenever the vehicle power is cycled. .

10.11. 2

A rear-view visibility system shall be provided that, upon placing the vehicle transmission into reverse, allows the vehicle operator to visibly see ~~an area no less than 10 ft x 20 ft (3 m x 6 m) directly~~ the area directly behind the vehicle.

Statement of Problem and Substantiation for Public Input

Proposed addition allows for fire departments to meet local ordinances in a way that avoids the risk of the backup alarm being removed or bypassed permanently.

Removed the backup camera field of view requirement because the way it is written is meaningless. There is nothing that specifies where the measurements are to be taken (on the ground horizontally, or vertically at some distance behind the vehicle). Nor do the values indicate which direction to take each measurement (width or height, or distance back, etc.) FMVSS 111 specifies field of view through a complex test of specific sized objects placed behind the vehicle. We could refer to this FMVSS requirement for passenger cars, or alternatively we could use the FMVSS requirement for school bus. But from a practical standpoint fire apparatus manufacturers are going to install commercially available camera systems that are likely to meet one or the other already. There is no FMVSS requirement for back-up camera field of view for heavy truck since a backup camera is not a heavy truck requirement.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document**Related Input****Relationship**

Public Input No. 59-NFPA 1900-2024 [Section No. A.10.11]

Public Input No. 317-NFPA 1900-2025 [Section No. 10.11]

Public Input No. 318-NFPA 1900-2025 [New Section after A.10.11]

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Thu Dec 26 09:15:15 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-280-NFPA 1900-2026

Statement: Proposed addition allows for fire departments to meet local ordinances in a way that avoids the risk of the backup alarm being removed or bypassed permanently. Removed the backup camera field of view requirement because the way it is written is meaningless. There is nothing that specifies where the measurements are to be taken (on the ground horizontally, or vertically at some distance behind the vehicle). Nor do the values indicate which direction to take each measurement (width or height, or distance back, etc.) FMVSS 111 specifies field of view through a complex test of specific sized objects placed behind the vehicle. We could refer to this FMVSS requirement for passenger cars, or alternatively we could use the FMVSS requirement for school bus. But from a practical standpoint fire apparatus manufacturers are going to install commercially available camera systems that are likely to meet one or the other already. There is no FMVSS requirement for back-up camera field of view for heavy truck since a backup camera is not a heavy truck requirement.

The added annex item provides the explanation for why the back-up camera should not include a microphone feature.

**Public Input No. 72-NFPA 1900-2025 [Section No. 10.11.1]****10.11.1**

An electric or electronic backup alarm shall be provided that meets or exceeds the Type D (87 dBA) requirements of SAE J994, *Alarm — Backup — Electric, Laboratory Performance Testing*.

Statement of Problem and Substantiation for Public Input

The sound output of the backup alarm should not be limited to 87dB, but should be selected based on the ambient noise created by the fire apparatus and the surrounding environment. The proposed change would allow a specifier to select a Class D alarm or a louder alarm (Class A, Class B, Class C, or Class F).

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 73-NFPA 1900-2025 [Section No. 31.13.1]	

Submitter Information Verification

Submitter Full Name: Jeremy Tucker

Organization: ECCO Safety Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Mar 11 17:52:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-280-NFPA 1900-2026](#)

Statement: Proposed addition allows for fire departments to meet local ordinances in a way that avoids the risk of the backup alarm being removed or bypassed permanently. Removed the backup camera field of view requirement because the way it is written is meaningless. There is nothing that specifies where the measurements are to be taken (on the ground horizontally, or vertically at some distance behind the vehicle). Nor do the values indicate which direction to take each measurement (width or height, or distance back, etc.) FMVSS 111 specifies field of view through a complex test of specific sized objects placed behind the vehicle. We could refer to this FMVSS requirement for passenger cars, or alternatively we could use the FMVSS requirement for school bus. But from a practical standpoint fire apparatus manufacturers are going to install commercially available camera systems that are likely to meet one or the other already. There is no FMVSS requirement for back-up camera field of view for heavy truck since a backup camera is not a heavy truck requirement.

The added annex item provides the explanation for why the back-up camera should not include a microphone feature.

**Public Input No. 60-NFPA 1900-2024 [Section No. 10.12]****10.12.3 –**

10.

12– Stop, Tail, and Directional Lights.

10.12.4 –

The apparatus shall be equipped with all legally required stop, tail, and directional lights.

10.12.2 –

Directional lights shall be visible from the front, sides, and rear of the apparatus.

12 Side Turn Signals

On apparatus 30 ft (10 m) or longer in length, a turn signal shall be

mounted approximately midway along the apparatus at approximately running board height.

10.12.4 –

Equipment shall not be mounted in a manner that obscures the stop, tail, or directional lights

located on each side at or near the midpoint between the front and rear side marker lamps not less than 15 inches (38 cm), nor more than 60 inches (152 cm) in height .

Statement of Problem and Substantiation for Public Input

Remove the items that are already required by FMVSS 108. Keep the mid-ship turn signal lamps for long vehicles, but reword to match the FMVSS 108 grammar.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Thu Dec 26 10:04:16 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-281-NFPA 1900-2026

Statement: Remove the items that are already required by FMVSS 108. Keep the mid-ship turn signal lamps for long vehicles, but reword to match the FMVSS 108 grammar.



Public Input No. 62-NFPA 1900-2024 [Section No. 10.13.5]

~~10.13.5 – Low Voltage Battery Charger/Conditioner Test.~~

~~10.13.5.1 –~~

~~If the apparatus is equipped with a low voltage battery charger/conditioner, it shall be tested as follows:~~

- ~~(1) Low voltage batteries are fully charged to at least 12.66 V for a 12 V nominal system, 25.32 V for a 24 V nominal system, and 37.98 V for a 42 V nominal system with the engine off and the shoreline disconnected.~~
- ~~(2)* Connect a dc ammeter to each output of the low voltage battery charger/conditioner.~~
- ~~(3) Connect the shoreline to power the low voltage battery charger/conditioner.~~
- ~~(4) Perform the test with the engine off and the shoreline power cord connected.~~
- ~~(5)* Add or apply loads to each charger output so that the output current is between 80 percent and 100 percent of the rated output current for that output.~~
- ~~(6) Record the low voltage battery voltage and output current for each charger output at the beginning of the test and every 20 minutes.~~
- ~~(7) Maintain the load for 60 minutes.~~
- ~~(8) Record the low voltage battery voltage and output current for each charger output at the end of the test with the load still applied and the charger/conditioner powered.~~
- ~~(9) Remove any added load.~~

~~10.13.5.2 –~~

~~The test shall be considered a failure if the charger/conditioner does not maintain an output voltage of at least 12.54 V for a 12 V nominal system, 25.08 V for a 24 V nominal system, and 37.62 V for a 42 V nominal system, or if it cannot maintain at least 80 percent of the rated output current for the duration of the test.~~

Statement of Problem and Substantiation for Public Input

NFPA 1900 added a test of the battery charger/conditioner prior to delivery on every apparatus. This was a new requirement. The justification for this additional test was because an annual test of the battery charger/conditioner is required in NFPA 1910 for in-service apparatus. The argument was that a service facility would conduct the in-service test, and while there are pass/fail criteria for this test, there was not an initial test conducted on the original installation, so the in-service result could not be compared to the results in the as-new condition.

This as-new condition test should be removed for the following reasons:

- 1) The as-new test is useful data for those service facilities who are diligent about watching for trends that might indicate a component is deteriorating over time. But there is little evidence that many fleet managers or service facilities pay attention to these nuances. We are therefore requiring extra expense for all, when the data is likely to be used by only a few.
- 2) NFPA 1910 test provides a test method as well as a pass/fail criteria, and each can stand alone without the as-new test data to compare to.
- 3) As-new component performance tests are not universal To put this in perspective, there are many other devices on a fire apparatus that are subject to wear over time (just as critical as the battery charger, or more so) that could be tested in their original condition but which are not required to be independently tested and recorded prior to delivery. Some examples would be:
 - Steering pump – pressure output vs rpm
 - Air brake compressor – pressure output vs rpm
 - Engine fuel pump
 - AC compressor
 - Engine water pump
 - Cab lift pump
 - Windshield wiper motors
 - Auxiliary air compressor
- 4) Not a minimum standard. As-new testing can be specified as an option. NFPA 1900 is supposed to be a minimum standard. If the fleet manager of a fire department wishes to have the battery charger/conditioner tested in accordance with the NFPA 1910 test prior to delivery, then they have the option of writing it into the purchase specification.
- 5) The as-new test is not impacted by the apparatus design. We test the output of the fire pump on every apparatus because the actual output will be affected by the broad variability of the plumbing, valves, foam system, and other options in the system. The battery charger/conditioner test, however, could be tested on a bench prior to installation. There is nothing about the customization of the apparatus that will affect the battery/conditioner test results. When we purchase components installed on an apparatus we rely on the component manufacturer to be supplying an product that meets their specifications. If we follow the precedent started by this as-new test we should be independently testing every component prior to assembly. No automotive manufacturer does this, it is not necessary to deliver a quality end-product, and it would not be fiscally responsible to the public who ultimately foot the bill.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

Related Input

Public Input No. 382-NFPA 1900-2025 [New Section after A.10.13.1]

Relationship

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Thu Dec 26 11:29:08 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-282-NFPA 1900-2026](#)

Statement: NFPA 1900 added a test of the battery charger/conditioner prior to delivery on every apparatus. This was a new requirement. The justification for this additional test was because an annual test of the battery charger/conditioner is required in NFPA 1910 for in-service apparatus. The argument was that a service facility would conduct the in-service test, and while there are pass/fail criteria for this test, there was not an initial test conducted on the original installation, so the in-service result could not be compared to the results in the as-new condition. This as-new condition test should be removed for the following reasons: 1) The as-new test is useful data for those service facilities who are diligent about watching for trends that might indicate a component is deteriorating over time. But there is little evidence that many fleet managers or service facilities pay attention to these nuances. We are therefore requiring extra expense for all, when the data is likely to be used by only a few. 2) NPFA 1910 test provides a test method as well as a pass/fail criteria, and each can stand alone without the as-new test data to compare to. 3) As-new component performance tests are not universal To put this in perspective, there are many other devices on a fire apparatus that are subject to wear over time (just as critical as the battery charger, or more so) that could be tested in their original condition but which are not required to be independently tested and recorded prior to delivery. Some examples would be: • Steering pump – pressure output vs rpm • Air brake compressor – pressure output vs rpm • Engine fuel pump • AC compressor • Engine water pump • Cab lift pump • Windshield wiper motors • Auxiliary air compressor 4) Not a minimum standard. As-new testing can be specified as an option. NFPA 1900 is supposed to be a minimum standard. If the fleet manager of a fire department wishes to have the battery charger/conditioner tested in accordance with the NFPA 1910 test prior to delivery, then they have the option of writing it into the purchase specification. 5) The as-new test is not impacted by the apparatus design. We test the output of the fire pump on every apparatus because the actual output will be affected by the broad variability of the plumbing, valves, foam system, and other options in the system. The battery charger/conditioner test, however, could be tested on a bench prior to installation. There is nothing about the customization of the apparatus that will affect the battery/conditioner test results. When we purchase components installed on an apparatus we rely on the component manufacturer to be supplying an product that meets their specifications. If we follow the precedent started by this as-new test we should be independently testing every component prior to assembly.

**Public Input No. 316-NFPA 1900-2025 [Section No. 10.14]**

10.

14. Documentation

14. Electrical Load Analysis .

The manufacturer

shall deliver the following with the fire apparatus:

- Documentation of the electrical system performance tests

A written electrical load analysis, including

shall perform an analysis of the low-voltage electrical power supply on the vehicle and compare this to the expected electrical loads.

The Electrical load analysis shall include the following:

(1) The

nameplate rating of the alternatorThe alternator rating

(1) low voltage power source under the conditions specified in 10.3.2

(2) Each of the component loads specified in 10.3.3 that make up the minimum continuous electrical load

(3) Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load

(4) Each individual intermittent electrical load

Statement of Problem and Substantiation for Public Input

To be consistent with the rest of the test requirements, this section should be titled for what it is, the electrical load analysis. The requirement that this analysis be provided to the purchaser is covered in chapter 7 The nameplate rating of the alternator is already required in the major components list in chapter 7, and is not relevant to the load analysis since the nameplate ratings are a marketing tool and not an indication of how the alternator will perform in reality.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Fri Jun 27 08:19:50 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-283-NFPA 1900-2026](#)

Statement: To be consistent with the rest of the test requirements, this section should be titled for what it is, the electrical load analysis. The requirement that this analysis be provided to the purchaser is covered in chapter 7 The nameplate rating of the alternator is already required in the major components list in chapter 7, and is not relevant to the load analysis since the nameplate ratings are a marketing tool and not an indication of how the alternator will perform in reality.

**Public Input No. 364-NFPA 1900-2025 [Section No. 11.1.3]****11.1.3**

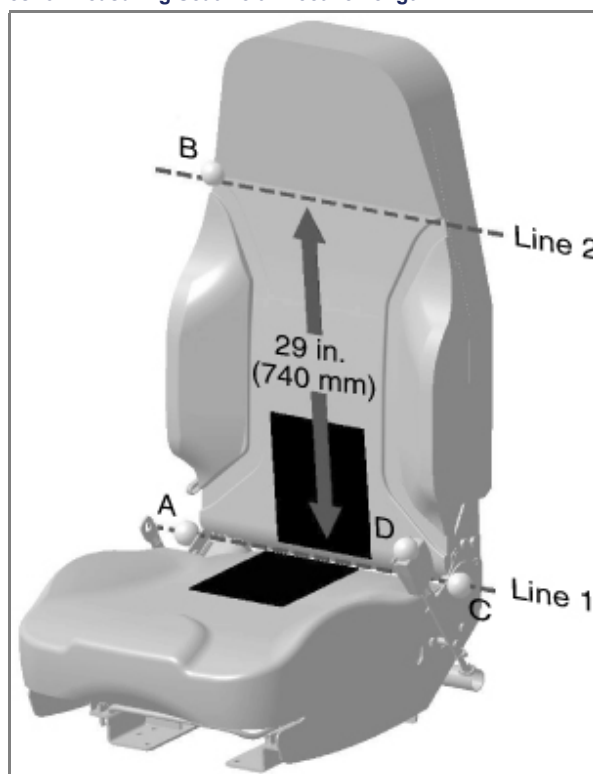
Each crew riding position shall be provided with a seat and an approved seat belt designed to accommodate a person with and without heavy clothing a seat belt.

11.1.3.1*

The effective seat belt web length for a Type 1 lap belt for pelvic restraint shall be a minimum of 60 in. (1525 mm) with the seat adjusted all the way back and down when measured using the following procedure:

- (1) Locate an imaginary line where the plane of the center of the seat back surface intersects the plane of the center of the seat cushion surface (line 1 in Figure 11.1.3.1). For seats with an SCBA seat back, use a plane that simulates the position of an SCBA back pad installed in the SCBA holder.
- (2) Locate point A on line 1 at the outside of the seat on the retractor side of the seat.
- (3) Locate point C on line 1 at the outside of the seat on the buckle side of the seat.
- (4) Locate point D at the tip of the buckle.
- (5) Pull the seat belt webbing entirely out of the retractor and measure along the webbing between point A and the seat belt latch plate (tongue). Record this length as AD.
- (6) Measure from point C to point D and record this length as CD.
- (7) The effective seat belt web length equals AD + CD.

Figure 11.1.3.1 Dimension Lines for Measuring Seat Belt Effective Length.

**11.1.3.2***

A Type 2 seat belt shall have either a single retractor or dual retractors. A single retractor, Type 2 pelvic and upper torso restraint-style seat belt assembly shall have a minimum effective seat belt web length of 110 in. (2800 mm) with the seat adjusted all the way back and down and when measured in accordance with 11.1.3.2.1. A dual retractor Type 2 pelvic and upper torso restraint-style seat belt assembly shall have a minimum effective shoulder belt web length of 50 in. (1270 mm) and a minimum effective lap belt web length of 60 in. (1530 mm) with the seat all the way back and down and as measured in 11.1.3.2.2.

11.1.3.2.1

Effective seat belt web length for a single retractor Type 2 seat belt shall be measured according to the following procedure:

- (1) Locate an imaginary line where the plane of the center of the seat back surface intersects the plane of the center of the seat cushion surface (line 1 in Figure 11.1.3.1). For seats with an SCBA seat back, use a plane that simulates the position of an SCBA back pad installed in the SCBA holder.
- (2) Locate an imaginary line parallel with line 1 and lying on the center of the seat back surface 29 in. (740 mm) from line 1 (line 2 in Figure 11.1.3.1).
- (3) Locate point A on line 1 at the outside of the seat on the retractor side of the seat.
- (4) Locate point B on line 2 at the shoulder strap edge of the seat back.
- (5) Locate point C on line 1 at the outside of the seat on the buckle side of the seat.
- (6) Locate point D at the tip of the buckle.
- (7) Pull the seat belt webbing entirely out of the retractor and measure along the webbing between points A and B. Record this length as AB.
- (8) Measure from point C to Point D and record this length as CD.
- (9) The effective seat belt web length equals $AB + 2CD$.

11.1.3.2.2

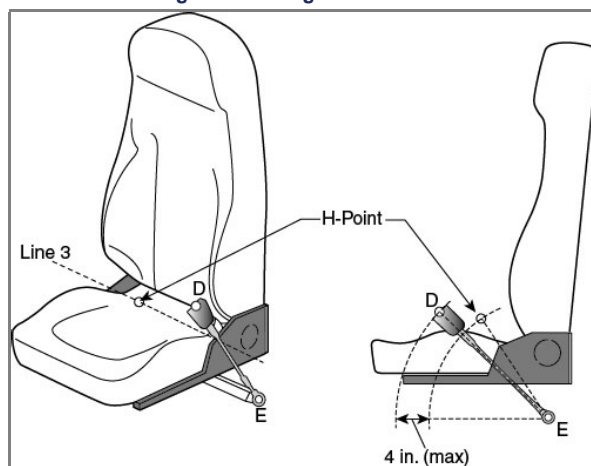
Effective seat belt web length for a dual retractor Type 2 seat belt shall be measured according to the following procedure:

- (1) Locate an imaginary line where the plane of the center of the seat back surface intersects the plane of the center of the seat cushion surface (line 1 in Figure 11.1.3.1). For seats with an SCBA seat back, use a plane that simulates the position of an SCBA back pad installed in the SCBA holder.
- (2) Locate point A on line 1 at the outside of the seat on the retractor side of the seat.
- (3) Locate point C on line 1 at the outside of the seat on the buckle side of the seat.
- (4) Locate point D at the tip of the buckle.
- (5) Pull the lap belt webbing entirely out of the lap belt retractor and measure along the webbing between point A and the seat belt latch plate (tongue). Record this length as AD.
- (6) Locate an imaginary line parallel with line 1 and lying on the center of the seat back surface 29 in. (740 mm) from line 1 (line 2 in Figure 11.1.3.1).
- (7) Locate point B on line 2 at the shoulder strap edge of the seat back.
- (8) Pull the shoulder belt webbing entirely out of the shoulder belt retractor and measure along the webbing between point B and the seat belt latch plate (tongue). Record this length as BD.
- (9) Measure from point C to Point D and record this length as CD.
- (10) The effective lap belt web length equals $AD + CD$.
- (11) The effective shoulder belt web length equals $BD + CD$.

11.1.3.2.3*

In the case of a Type 2 seat belt, the distance from the buckle anchorage (point E in Figure 11.1.3.2.3) to the buckle tip (point D in Figure 11.1.3.2.3) shall be no more than 4 in. (102 mm) longer than the perpendicular distance from the buckle anchorage to a lateral axis through the H point of the seat (line 3 in Figure 11.1.3.2.3) when the seat is adjusted to its lowest and most rearward position.

Figure 11.1.3.2.3 Dimension Lines for Measuring Buckle Length.

**11.1.3.3***

The seat belt webbing shall be red or orange in color on the following:

- (1) SAE Class 4, Class 5, or Class 6 apparatus with seating for more than five occupants.
- (2) SAE Class 7 or Class 8 apparatus with seating for more than three occupants.

11.1.3.4

The seat belt buckle receiver shall be mounted on a rigid or semirigid stalk such that the buckle remains positioned in an accessible location.

11.1.3.5

All forward-facing seats adjacent to a side wall shall be provided with a Type 2 pelvic and upper torso restraint-style seat belt assembly.

11.1.3.6

Safety sign FAMA07, which warns of the importance of seat belt use, shall be visible from each seat that is intended to be occupied while the vehicle is in motion.

11.1.3.7

Safety sign FAMA06 shall be visible from each seat that is not equipped with occupant restraint and therefore not intended to be occupied while the vehicle is in motion.

11.1.3.8*

A seat belt warning system shall be provided on the following structural fire apparatus:

- (1) SAE Class 4, Class 5, or Class 6 apparatus with seating for more than five occupants.
- (2) SAE Class 7 or Class 8 apparatus with seating for more than three occupants.

11.1.3.8.1

The warning system shall consist of an audible ~~warning device that alert that~~ can be heard at all seating positions designed to be occupied while the vehicle is in motion and a visual display visible to the driver or the officer showing the condition of each seating position.

11.1.3.8.2

~~The warning shall be activated anytime the alert shall be activate~~ a continuous or intermittent audible signal for a period of not less than 4 seconds and not more than 8 seconds when the parking brake is released or the automatic transmission is not in park ~~park~~ and the system senses an occupied seat where the seat belt is not buckled.

11.1.3.8.3

The seat position display shall indicate conditions in accordance with Table 11.1.3.8.3.

Table 11.1.3.8.3 Display for Seating System

<u>Display Indication</u>	<u>Seat Belt</u>	<u>Seat Sensor</u>
Affirmative indication	Buckled	Senses occupant
Negative indication	Buckled	No occupant
Negative indication	Unbuckled	Senses occupant
Dark	Unbuckled	No occupant

11.1.3.8.4

The display indication shall be permitted to consist of lights, text, graphical indicators, digital displays, or other methods.

11.1.3.8.5

~~The warning system shall not show an affirmative indication unless it has determined that the seat was occupied before the seat belt was buckled.~~

11.1.3.8.6 –

Once an affirmative indication has been established for a seating position, it shall remain an affirmative indication until the next time the seat belt buckle is released or the system power is cycled.

Statement of Problem and Substantiation for Public Input

In 11.1.3 who “approves” the seat belt is not defined. The requirement that makes sure the seat belt will accommodate firefighters with heavy clothing is included in the following length specifications, so the phrase by itself is not meaningful.

This proposed revision is intended to remind occupants to buckle their belts without exposing them to the continual distraction that is caused when a faulty sensor, connector, wire creates a buzzer that will not shut off. The 4 to 8 seconds language is borrowed from the pre-2027 passenger car requirements of FMVSS 208.

Car manufacturers have gone beyond the FMVSS requirements, but it is all voluntary. NFPA created the complicated and extensive seat belt alert requirements beginning in 2009 with good intent. The problem is that this complexity requires both buckle sensors and cushion sensors in each seat with all the associated wiring.

Seat cushion sensors are activated by the weight of the occupant, which can be lost when the occupant shifts weight, lifts briefly off the seat, or during rough rides. The more seats, belts, and sensors, the greater the frequency of failures or false negatives. A constant buzzer will increase driver stress and distraction that subjectively is just as dangerous as forgetting to buckle up.

NHTSA has published a final rule updating FMVSS 208 with new seat belt warning requirements, but they only apply to vehicles less than 10,000 lb GVWR, and there are additional exemptions for police cars and ambulances.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 365-NFPA 1900-2025 [Section No. A.11.1.3.8]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 14 21:36:56 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-50-NFPA 1900-2026

Statement: In 11.1.3 who “approves” the seat belt is not defined. The requirement that makes sure the seat belt will accommodate firefighters with heavy clothing is included in the following length specifications, so the phrase by itself is not meaningful. This proposed revision is intended to remind occupants to buckle their belts without exposing them to the continual distraction that is caused when a faulty sensor, connector, wire creates a buzzer that will not shut off. The 4 to 8 seconds language is borrowed from the pre-2027 passenger car requirements of FMVSS 208. Car manufacturers have gone beyond the FMVSS requirements, but it is all voluntary. NFPA created the complicated and extensive seat belt alert requirements beginning in 2009 with good intent. The problem is that this complexity requires both buckle sensors and cushion sensors in each seat with all the associated wiring. Seat cushion sensors are activated by the weight of the occupant, which can be lost when the occupant shifts weight, lifts briefly off the seat, or during rough rides. The more seats, belts, and sensors, the greater the frequency of failures or false negatives. A constant buzzer will increase driver stress and distraction that subjectively is just as dangerous as forgetting to buckle up. NHTSA has published a final rule updating FMVSS 208 with new seat belt warning requirements, but they only apply to vehicles less than 10,000 lb GVWR, and there are additional exemptions for police cars and ambulances.

**Public Input No. 450-NFPA 1900-2025 [Section No. 11.1.3.3]****11.1.3.3***

The seat belt webbing shall be red or orange in color on the following:

- (1) SAE- FHWA Class 4, Class 5, or Class 6 apparatus with seating for more than five occupants.
- (2) SAE- FHWA Class 7 or Class 8 apparatus with seating for more than three occupants.

Statement of Problem and Substantiation for Public Input

The vehicle weight classes are defined by FHWA (Federal Highway Administration)

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 15:37:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee has reviewed this and determined that it is the FHWA and the SAE classes are not the same. It is the SAE classes that the committee intended to use.

**Public Input No. 451-NFPA 1900-2025 [Section No. 11.1.3.8 [Excluding any Sub-Sections]]**

A seat belt warning system shall be provided on the following structural fire apparatus:

- (1) ~~SAE Class 4~~ FHWA Class 4 , Class 5, or Class 6 apparatus with seating for more than five occupants.
- (2) ~~SAE Class 7~~ FHWA Class 7 or Class 8 apparatus with seating for more than three occupants.

Statement of Problem and Substantiation for Public Input

The vehicle weight classes are defined by FHWA

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 15:48:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee reviewed this and determined that it is the FHWA and the SAE classes are not the same. It is the SAE classes that the committee intended to use.

**Public Input No. 303-NFPA 1900-2025 [New Section after 11.1.3.8.6]****11.1.3.8.7**

It shall be permissible to provide a silence button that silences the seat belt warning until the next time the parking brake is applied or the transmission is placed in park.

Statement of Problem and Substantiation for Public Input

A silence button would allow the driver (or officer) to silence a malfunctioning alarm, firefighter not belted alarm, or any other cause of a nuisance alarm; without encouraging the alarm to be permanently disabled.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Chassis task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 09 15:05:01 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-425-NFPA 1900-2026](#)

Statement: A silence button would allow the driver (or officer) to silence a malfunctioning alarm, firefighter not belted alarm, or any other cause of a nuisance alarm; without encouraging the alarm to be permanently disabled.

**Public Input No. 366-NFPA 1900-2025 [Section No. 11.1.4]****11.1.4 –**

~~All interior crew and driving compartment door handles shall be designed and installed to protect against accidental or inadvertent opening.~~

Statement of Problem and Substantiation for Public Input

This is a laudable intent, but there is no measurement criteria. If a requirement can't be measured, it does not belong in a standard. We would need to find some test procedure that door handles could be tested against to determine if they protected against accidental opening or not.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submission Date: Mon Jul 14 21:52:21 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-224-NFPA 1900-2026](#)

Statement: This is a laudable intent, but there is no measurement criteria. If a requirement can't be measured, it does not belong in a standard. We would need to find some test procedure that door handles could be tested against to determine if they protected against accidental opening or not.

**Public Input No. 367-NFPA 1900-2025 [Section No. 11.1.8.4]****11.1.8.4***

One of the following statements shall be included in the operator's manual:

- (1) For structural fire apparatus: "Fire helmets shall not be worn by persons riding in enclosed driving and crew areas. "Fire helmets are not designed for crash protection and they will interfere with the protection provided by head rests. The use of seat belts is essential to protecting firefighters during driving."
- (2) For wildland fire apparatus: ~~"Warning: Serious-~~ "Serious- head/neck injury can result from helmet use in cab. Do not wear helmet while seated unless necessary during suppression operations. Fire helmets are not designed for crash protection and they will interfere with the protection provided by head rests. Reduction of head clearance can increase the risk of spinal compression injury from roof contact. The use of seat belts is essential to protecting firefighters during driving."

11.1.8.4.1

In structural fire apparatus, a location for helmet storage shall be provided.

11.1.8.4.2

If helmets are to be stored in the driving or crew compartment, the helmets shall be secured in compliance with 11.1.11.2.

11.1.8.4.3

Safety sign FAMA15 (structural fire apparatus) or FAMA 43 (wildland fire apparatus), which warn not to wear helmets while the vehicle is in motion, shall be visible from each seat that is intended to be occupied while the vehicle is in motion.

Statement of Problem and Substantiation for Public Input

Be consistent between the wording for structural and wildland apparatus

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 14 21:57:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-225-NFPA 1900-2026

Statement: These changes are being made in order to be consistent between the wording for structural and wildland apparatus

**Public Input No. 401-NFPA 1900-2025 [Section No. 11.1.10]****11.1.10* SCBA Mounting.**

Where SCBA holders are mounted within a driving or crew compartment, they shall comply with the following:

- (1) The SCBA holder shall retain a backpack and harness assembly and cylinder combination for the published weight rating of the holder when subjected to the dynamic force pulse per SAE J2418, *Occupant Restraint System Evaluation — Frontal Impact Component-Level Heavy Trucks, 2003*.
- (2) If the SCBA unit is mounted in a seatback, the release mechanism shall be accessible to the user while seated.
- (3) Brackets that lock automatically either in the event of impact or when the parking brake is released, but are not locked at other times, shall be permitted.
- (4) * The SCBA holder shall retain the cylinder when subjected to the deceleration pulse at 0, 30, 90, and 180 degrees with respect to the direction of bottle extraction and in the horizontal plane.
- (5) The SCBA holder shall retain the cylinder when subjected to a deceleration pulse that exceeds 2 g for at least 60 ms in the vertical direction.
- (6) The deceleration pulse shall meet the SAE J2418, *Occupant Restraint System Evaluation — Frontal Impact Component-Level Heavy Trucks, 2003*, deceleration profile with an accuracy of ± 10 percent within the 35 to 95 ms range.
- (7) The deceleration pulse shall be measured on a rigid portion of the base of the test fixture.
- (8) The test component shall be retained in the holder during and after the dynamic test.
- (9) The force required to extract the cylinder after each test shall be no more than 125 percent of the initial extraction force.
- (10) The SCBA holder shall be attached to the fixture in the same manner that it will be fastened to the seat or vehicle.
- (11) The test cylinder shall not move more than 3 in. (76 mm) relative to the frame of the holder during each test.
- (12) The test fixture shall not allow the holder frame to move more than 3 in. (76 mm) relative to the base of the test sled.
- (13) Each holder shall bear a label affixed by the holder manufacturer certifying compliance to these specifications.

Statement of Problem and Substantiation for Public Input

This requirement uses the 2003 version of the SAE J2418. The 2003 version is specified in the reference chapter, but there is no reason not to be specific here as well.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: NFPA 1900 Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 10:25:50 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The MOS does not allow use of edition years or publication dates in the mandatory sections of the document, except for Chapter 2.

**Public Input No. 402-NFPA 1900-2025 [Section No. 11.1.13]****11.1.13**

Where the crew compartment and the driving compartment are separated, prohibiting direct voice communication, a ~~two-way buzzer or two-way voice intercom system shall~~ means of communication between the compartments shall be provided.

Statement of Problem and Substantiation for Public Input

Eliminate design-restrictive language.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 408-NFPA 1900-2025 [Section No. 11.4.6.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 10:43:42 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-227-NFPA 1900-2026](#)

Statement: Eliminate design-restrictive language.

**Public Input No. 403-NFPA 1900-2025 [Section No. 11.2]****11.2 Cab Tilt Systems.**

If the fire apparatus has a cab tilt system, the system shall meet the requirements of 11.2.1 through 11.2.4 5.

11.2.1

If the operation of the cab tilt system is accomplished by hydraulic means, the system shall be equipped with devices to ~~prevent~~ limit the motion of the cab in the event of any hydraulic hose failure.

11.2.2

If the cab has a powered tilting system, the system shall be both of the following:

- (1) Interlocked to operate only when the parking brake is engaged
- (2) Configured so that the failure of a single component will not result in unintentional tilting of the cab

11.2.3

The control of the cab tilt mechanism shall be accomplished clear of the cab travel area while still having the travel area beneath the cab in clear view.

11.2.3.1 ~~4~~

A mechanical means shall be provided to hold the cab in ~~a fully raised position.~~

11.2.3.2 –

~~If the cab is able to be raised to a defined intermediate position, a mechanical means shall also be provided to hold the cab in that intermediate position the service position.~~

11.2.4 5

Safety sign FAMA41, which warns of the dangers of cab tilt systems, shall be located on the inside panel of the driver cab door.

Statement of Problem and Substantiation for Public Input

11.2.1 The velocity fuses used in all cab lift systems cannot "prevent" motion entirely because it is the physical motion of the cab that it is required trip the fuse.

11.2.3 The current wording "travel area" which could be interpreted as both the front of the cab around the bumper, and the back of the cab, and the top of the cab. This is not practical. The task group agreed that it is the area under the cab as it is raising or descending that we want to be sure is visible to the operator.

11.2.3.1 and 11.2.3.2 This wording was created to accommodate custom requests where the department had low ceilings and wanted a lower prop rod where the service position is not necessarily the fully raised position. The wording is revised for conciseness and clarity.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 10:51:29 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-228-NFPA 1900-2026](#)

Statement: 11.2.1 The velocity fuses used in all cab lift systems cannot "prevent" motion entirely because it is the physical motion of the cab that it is required trip the fuse.

11.2.3 The current wording "travel area" which could be interpreted as both the front of the cab around the bumper, and the back of the cab, and the top of the cab. This is not practical. The committee agreed that it is the area under the cab as it is raising or descending that we want to be sure is visible to the operator.

11.2.3.1 and 11.2.3.2 This wording was created to accommodate custom requests where the department had low ceilings and wanted a lower prop rod where the service position is not necessarily the fully raised position. The wording is revised for conciseness and clarity.

**Public Input No. 537-NFPA 1900-2025 [New Section after 11.3]****Commercial Chassis Side Roll Protection System**

Apparatus built on a commercial chassis shall be equipped with a system designed to protect occupants in the event of a side roll. Systems is not provided by the chassis OEM, including seats, seat risers, and seat belts shall be validated to meet FMVSS requirements. Side roll protection systems shall include the following components and functions.

- (1) Front driver and passenger seating positions shall be equipped with a seat belt pre-tensioner, side curtain airbag deploying from the outboard seat bolster or separate side curtain module. Seats equipped with air suspension shall be equipped with air suspension pull down function.
- (2) Rear seats shall be equipped with a seat belt pre-tensioner. Outboard seats shall have a side curtain airbag deploying from the outboard seat bolster or separate side curtain module. Seats equipped with air suspension shall be equipped with air suspension pull down function.
- (3) Activation sensor mounted in a protected location but accessible to mechanics to unplug connector for service without the use of tools to access.
- (4) System will record events that trigger the activation of the safety system.
- (5) System fault indicator in view of the driver that indicates a system fault.

Statement of Problem and Substantiation for Public Input

Side curtain airbags are standard on smaller commercial protecting passengers' from striking their heads and keeping their head and arms in the vehicle in a roll over event. OEM and aftermarket systems are available.

Submitter Information Verification

Submitter Full Name: R. J. Johnson

Organization: US Department of the Interior

Street Address:

City:

State:

Zip:

Submittal Date: Wed Sep 03 12:40:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-357-NFPA 1900-2026

Statement: The option for frontal and roll-over occupant protection air bags are now available in almost all custom and commercial fire apparatus makes and models.

**Public Input No. 553-NFPA 1900-2025 [New Section after 11.3]****11.3.8 Active Occupant Protection****11.3.8.1**

The cab of any structural fire apparatus shall be equipped at each front outboard designated seating position with a system designed to reduce the risk of injury in the event of a significant frontal crash by means of an inflatable restraint system that requires no action by vehicle occupants.

11.3.8.2

The cab of any structural fire apparatus shall be equipped at each outboard designated primary seating position with a system designed to reduce the risk of injury in a roll-over crash by means of an inflatable restraint system that requires no action by vehicle occupants.

Statement of Problem and Substantiation for Public Input

The option for frontal and roll-over occupant protection air bags are now available in almost all custom and commercial fire apparatus makes and models. This includes heavy commercial trucks such as Freightliner and Navistar. I offer this public input so that the NFPA apparatus committee can consider adding this safety feature as standard. This proposal is written to cover structural fire apparatus only, but the committee should consider include whether wildland fire apparatus should be included as well.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Sep 03 15:42:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-357-NFPA 1900-2026](#)

Statement: The option for frontal and roll-over occupant protection air bags are now available in almost all custom and commercial fire apparatus makes and models.

**Public Input No. 404-NFPA 1900-2025 [Section No. 11.3.1]****11.3.1 * –**

~~A fully enclosed driving compartment with seating capacity for not fewer than two persons shall be provided except at a tiller operator's driving position. (See 11.4.1.)~~

Any portion of the apparatus designed to be occupied while the vehicle is driving above 10 mph (16 kph) shall be fully enclosed.

Statement of Problem and Substantiation for Public Input

While there are no current apparatus designs that would only accommodate a single occupant, there is no reason why this should be prohibited. The proposed revision meets the intent while accommodating the pump and roll item in A11.1.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 11:51:26 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-356-NFPA 1900-2026

Statement: While there are no current apparatus designs that would only accommodate a single occupant, there is no reason why this should be prohibited. The proposed revision meets the intent while accommodating the pump and roll item in A.11.1.

**Public Input No. 405-NFPA 1900-2025 [Section No. 11.3.2]****11.3.2***

Cabs on apparatus with a GVWR greater than 26,000 lb (11,800 kg) shall meet the requirements of one of the following sets of standards:

- (1) SAE J2420, *COE Frontal Strength Evaluation — Dynamic Loading Heavy Trucks, 2010*, and SAE J2422, *Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks, 2010*
- (2) ECE Regulation number 29, *Uniform Provisions Concerning the Approval of Vehicles with Regard to the Protection of the Occupants of the Cab of a Commercial Vehicle*.

Statement of Problem and Substantiation for Public Input

This requirement uses the 2010 version of the SAE J2420 and 2422. The 2010 versions are specified in the reference chapter, but there is no reason not to be specific here as well. The SAE cab crashworthiness committee is considering changes to J2422 which might require re-testing of all fire apparatus cabs. It is doubtful that the current custom cabs would not be able to pass the new versions, but specifying the general recommended practices rather than the specific issue date of 2010 would require a complete new round of testing which would be a financial burden for no appreciable increase in safety.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 11:57:00 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The MOS does not allow use of edition years or publication dates in the mandatory sections of the document, except for Chapter 2.

**Public Input No. 522-NFPA 1900-2025 [Section No. 11.3.2]****11.3.2***

Cabs on apparatus with a GVWR greater than 26,000 lb (11,800 kg) shall meet the requirements of one of the following sets of standards:

- (1) SAE J2420, *COE Frontal Strength Evaluation — Dynamic Loading Heavy Trucks*, - and - and modified SAE J2422, *Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks Trucks where the Gross Vehicle Weight Rating is used in place of the Maximum Front Axle Weight*.
- (2) ECE Regulation number 29, *Uniform Provisions Concerning the Approval of Vehicles with Regard to the Protection of the Occupants of the Cab of a Commercial Vehicle*

Statement of Problem and Substantiation for Public Input

Commercial cab standards are not adequate to protect the occupants in the event of a rollover of fire apparatus which frequently operate near the GVWR.

Submitter Information Verification

Submitter Full Name: R. J. Johnson

Organization: US Department of the Interior

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 18:29:21 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The applicability of the test load on these SAE standards is the purview of the SAE Truck Crashworthiness Committee. This committee consists of members from all the Class 8 Truck manufacturers. This proposal would increase the roof crush test weight by 350% in the case of large aerial apparatus. While some custom cabs may be able to withstand these loads, commercial cabs could not. The idea of increasing the test weight has been a subject for the SAE committee many times over the years and has never been acted upon.



Public Input No. 487-NFPA 1900-2025 [New Section after 11.3.6]

11.3.6.3 Non FMVSS required information displayed on a digital information center shall be manually available to the driver or automatically available in case of a warning condition.

Statement of Problem and Substantiation for Public Input

Section 11.3.6.1 does not clearly address the situation where a digital display may be present for some of the functionality and if it needs to be always available to the driver or if the driver has the ability to scroll through a menu or displays to view. Suggest adding a section that is aligned to FMVSS required instrumentation and stating that it can be manually available to the driver when needed like conditions where a warning condition is present.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 13:53:47 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee considered this proposal but did not feel the wording was clearly understandable without the benefit of the justification. FMVSS standards trump anything that we would put in NFPA, which makes this proposal of limited benefit even if we reword it to make the intent clearer.

**Public Input No. 406-NFPA 1900-2025 [Section No. 11.3.6]****11.3.6 Instrumentation and Controls.****11.3.6.1***

The following instrumentation and controls shall be mounted in the driving compartment and shall be identified and visible to the driver while seated:

- (1) ~~Speedometer~~
- (2) ~~Tachometer~~
- (3) ~~Odometer~~
- (4) ~~Oil pressure indicator or gauge~~
- (5) ~~Coolant temperature indicator or gauge~~
- (6) ~~Automatic transmission temperature indicator or gauge, if applicable~~
- (7) ~~Voltmeter~~
- (8) ~~Hazard indicator light (see Section 10.10)~~
- (9) ~~Air pressure gauge(s), if applicable~~
- (10) ~~Turn signal control and indicator lights~~
- (11) ~~Headlight/DOT light switch~~
- (12) ~~High beam headlight switch and indicator~~
- (13) ~~Fuel level gauge(s)~~
- (14) ~~Master ignition switch (if a key is provided, it shall be unable to be removed from the driving compartment interior)~~
- (15) ~~Heater/defroster controls~~
- (16) ~~Warning lights and siren switches~~
- (17) ~~Major load disconnect switch~~
- (18) ~~Windshield wipers and windshield washer control~~
- (19) ~~PTO engaged indicator, if applicable~~
- (20) ~~Pump engagement controls, if applicable~~

11.3.6.2 –

Controls and switches that are expected to be operated by the driver while the apparatus is in motion shall be within convenient reach for the driver.

Statement of Problem and Substantiation for Public Input

This list of items is incomplete as it is missing items now required by EPA compliant engines. Unlike the tiller cab, which is totally unique the fire industry, there is no reason for keeping a list of truck cab controls. Especially as we are not also producing electric apparatus where different controls and data are required. Rather than try to keep up with a list, it is better to just get rid of it. All the items on this list are either required to make the vehicle drivable and will be there anyway, are already required by FMVSS standards, are called out elsewhere in this standard, or are not a minimum standard. The requirement for the ignition key (if provided) to be unable to be removed from the cab may not be a desirable specification in certain cases where vehicle security is important (times have changed and fire trucks can be stolen). Leave the key item to the purchaser.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 12:02:51 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-229-NFPA 1900-2026](#)

Statement: This list of items is incomplete as it is missing items now required by EPA compliant engines. Unlike the tiller cab, which is totally unique the fire industry, there is no reason for keeping a list of truck cab controls. Especially as we are not also producing electric apparatus where different controls and data are required. Rather than try to keep up with a list, it is better to just get rid of it. All the items on this list are either required to make the vehicle drivable and will be there anyway, are already required by FMVSS standards, are called out elsewhere in this standard, or are not a minimum standard. The requirement for the ignition key (if provided) to be unable to be removed from the cab may not be a desirable specification in certain cases where vehicle security is important (times have changed and fire trucks can be stolen).

**Public Input No. 407-NFPA 1900-2025 [Section No. 11.4.5.2]****11.4.5.2**

The communication system shall be operable without the tiller operator having to take ~~his/her~~ both hands off the steering wheel.

Statement of Problem and Substantiation for Public Input

The intention was that the operation would not require both hands off the wheel. Certainly driving with one hand for a short period of time would be OK since this is a requirement for operating any of the other cab controls while in motion.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 12:08:49 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-230-NFPA 1900-2026](#)

Statement: The intention was that the operation would not require both hands off the wheel. Certainly driving with one hand for a short period of time would be OK since this is a requirement for operating any of the other cab controls while in motion.

**Public Input No. 408-NFPA 1900-2025 [Section No. 11.4.6.1]****11.4.6.1**

The following instrumentation and controls shall be mounted in the tiller operator's compartment:

- (1) Heater controls
- (2) Defroster controls
- (3) Turn signal indicator lights
- (4) ~~Two-way buzzer signal switch~~ Communication controls
- (5) Windshield wiper and washer fluid control

Statement of Problem and Substantiation for Public Input

The communication system required in 11.4.5.1 may be something other than a two-way buzzer.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 402-NFPA 1900-2025 [Section No. 11.1.13]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 12:13:10 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-231-NFPA 1900-2026](#)

Statement: The communication system required in 11.4.5.1 may be something other than a two-way buzzer.

**Public Input No. 409-NFPA 1900-2025 [Section No. 12.3.3]****12.3.3 –**

A visual signal shall be provided at the driver's position to indicate that the equipment rack is not stowed and the parking brake is not engaged.

Statement of Problem and Substantiation for Public Input

This requirement is redundant as it is already spelled out in chapter 10 (10.10.1)

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 12:19:35 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-232-NFPA 1900-2026](#)

Statement: This requirement is redundant as it is already spelled out in chapter 10 (10.10.1)

**Public Input No. 410-NFPA 1900-2025 [Section No. 12.4]****12.4* SCBA Storage.**

~~Storage of complete SCBA units or SCBA cylinders shall be arranged so as to prevent damage, injury, or abrasion to the SCBA from other equipment stored in the general area.~~

12.4.1 –

If an SCBA unit or cylinder is stored within a driving or crew compartment, the mounting shall comply with the requirements of Section 12.4 and 11.1.10.

12.4.2

~~If an SCBA cylinder is mounted in a vertical position with the valve down, it shall be supported with a brace or yoke under the cylinder or valve area to prevent downward movement in a manner that will protect the valve from damage .~~

12.4.3

~~The holding or clamping device shall not injure, wear, scrape, or otherwise affect. minimize damage or wear to the SCBA unit or cylinder ,including damage to the paint or reflective finish, while the cylinder is being placed in, stored in, or removed from the holder during loading, unloading and while in transit .~~

12.4.4

The SCBA storage area shall be a ventilated, dry area away from all high heat sources ~~that could damage the SCBA~~ (e.g., mufflers, engines).

12.4.5* – Vertical Storage of SCBA Cylinders in Tubes.**12.4.5.1 –**

~~The base of the storage tube shall have a rubber, plastic, or similar device to prevent wear on the cylinder and to prevent damage if the cylinder is accidentally dropped into the storage position.~~

12.4.5.2 –

Each storage tube shall have a drain ~~to prevent accumulation of moisture~~ means to prevent liquids from accumulating .

12.4.6 * – Horizontal Storage of SCBA Cylinders.**12.4.6.1 –**

~~The storage rack or tube assembly shall be designed to prevent the cylinder from accidentally sliding out from the storage rack or tube and shall be installed so as to keep the cylinder from hitting or rubbing on compartment doors by preventing movement or shifting when in transit.~~

12.4.6.2 –

The rear wall of each SCBA storage area or tube shall be covered with a rubber, plastic, or similar material to prevent wear on cylinders

Storage shall be arranged so as to minimize damage to the SCBA from other equipment stored in the general area .

Statement of Problem and Substantiation for Public Input

The current wording is redundant, design restrictive, and unrealistic. Mechanical wear is inevitable, it can be minimized, but not prevented altogether. This section is revised to eliminate redundancy and remove design restrictive requirements. The proposed wording is concise, but covers all the essential safety concerns.

The need for a re-write was recognized and approved by the Chassis Task Group.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 12:31:15 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-233-NFPA 1900-2026

Statement: The current wording is redundant, design restrictive, and unrealistic. Mechanical wear is inevitable, it can be minimized, but not prevented altogether. This section is revised to eliminate redundancy and remove design restrictive requirements. The proposed wording is concise, but covers all the essential safety concerns.

**Public Input No. 374-NFPA 1900-2025 [Section No. 12.6.1.1 [Excluding any Sub-Sections]]**

The maximum vertical stepping height shall not exceed either of the following:

- (1) 18 in. (460 mm)
- (2) ~~24 in~~ 20 in . (~~610 mm~~ 508 mm) for the ground to first step when the vehicle is loaded to its estimated in-service weight

Statement of Problem and Substantiation for Public Input

Looking at current apparatus builds, many fire departments are choosing to add an additional step to access the cab. The 24 in. step height is too high for ingress and egress of the cab of a fire apparatus; while wearing turnout pants and boots. The addition of a second step affects the approach angle on the vehicle and ergonomics of stepping in and out. By changing the requirement from 24 in. to 20 in., it will allow for better ingress/egress and not necessitate the addition of a second step.

Submitter Information Verification

Submitter Full Name: Michael Flores

Organization: Los Angeles Fire Department

Affiliation: Los Angeles Fire Department

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jul 15 16:06:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: Task group considered this request and determined that 24 inches is the minimum standard. Shorter step height, while desirable, would impact ground clearance as well as departure angle. This would be a critical trade-off for those apparatus with aggressive ramps and other road structures and lead to dragging and scraping the rear end more often.



Public Input No. 411-NFPA 1900-2025 [Section No. 12.6.4]

12.6.4 *

~~Slip~~

Slip Resistance.

12.6.4.

~~1~~

1

All materials used for exterior surfaces designated as stepping, standing, and walking areas

~~and all interior steps shall have a minimum slip resistance in any orientation of 0.68 when tested wet using the English XL tester in accordance with the manufacturer's instructions or 0.52 when tested wet using the Brungraber Mark II tester in accordance with the manufacturer's instructions.~~

shall be tested to determine the average Dynamic Coefficient of Friction (DCOF) in accordance with SAE J3351, Stepping Surface Test Method for Heavy Vehicles.

12.6.4.2

~~—~~

All materials used for

~~interior floors~~

exterior surfaces shall have a minimum

~~slip resistance in any orientation~~

average DCOF of 0.

~~58~~

50 when tested

~~dry using the English XL tester in accordance with the manufacturer's instructions or 0.47 when tested dry using the Brungraber Mark II tester in accordance with the manufacturer's instructions.~~

wet.

12.6.4.3

~~—~~

~~A standard Neolite[®] test sensor shall be used with both the English XL tester and the Brungraber Mark II tester.~~

~~12.6.4.4 – Sampling Strategy.~~

All materials used for interior surfaces shall have a minimum average DCOF of 0.60 when tested dry.

12.6.4.4

~~1.~~

~~For uniformly patterned materials, at least 16 readings shall be taken on each sample.~~

~~12.6.4.4.1.1 –~~

~~Each reading shall be taken 90 degrees clockwise from the previous orientation, resulting in at least four readings in each orientation~~

The first step off the ground shall have a slip resistant feature on the leading edge effective in the direction of ingress .

12.6.4.

~~4.1.2~~

~~The readings shall be averaged and reported as the slip resistance for the material.~~

~~12.6.4.4.2 –~~

~~For directionally patterned materials, at least 32 readings shall be taken on each sample.~~

~~12.6.4.4.2.1 –~~

~~Each reading shall be taken 45 degrees clockwise from the previous orientation, resulting in at least four readings in each orientation.~~

~~12.6.4.4.2.2 –~~

~~The four readings in each direction shall be averaged and reported as the slip resistance for the material in that orientation~~

5

Where the fuel fill is located at or near a stepping surface, the surface shall be constructed of an open grate-type material to facilitate draining of accidentally spilled fuel .

12.6.4.

5-

6

The contractor shall deliver with the fire apparatus a certification that all materials used for exterior surfaces

designated

as

stepping, standing, and walking

areas, all interior steps, and all interior floors meet

areas meet the requirements of

12.6.4 .

12.6.4.6 –

Where the fuel fill is located at or near a stepping surface, the surface shall be constructed of an open grate-type material to facilitate draining of accidentally spilled fuel to lessen any slipping hazard.

this section.

Statement of Problem and Substantiation for Public Input

Both the English XL tester and the Brungraber Mark II tester have been largely discredited in the slip resistance industry because their results are not repeatable or reliable. Both have had their ASTM standards withdrawn because of their lack of precision.

SAE has developed a recommended practice for measuring DCOF specifically designed to work well on large format grip surfaces such as open grating, grip-strut, and diamond plate. It simulates a boot with a rubber sole on a stepping surface. The test procedure using this test fixture is defined in SAE J3351.

The minimum values have been selected based on testing of materials used in fire truck applications. Traditionally plain aluminum treadplate was used for stepping surfaces. In the 1990s when NFPA 1901 first introduced slip resistance requirements the industry developed the embossed aluminum treadplate material which had improved wet DCOF. The exterior WET minimum average DCOF in this proposed was selected based on the embossed treadplate performance with the idea that any other exterior surface would need to at least meet this same performance. Other considerations include the need for open-grate surfaces around fuel fill locations.

Interior surfaces are to be tested dry. Although interior surfaces can get wet, inside the risk of falling is less due to confined space, closeness of handrails, and more controlled environment. There are also other considerations when selecting interior surfaces such as acting as sound deadening, sound insulation, heat insulation, and comfort. This does not allow the same level of aggressiveness. While the interior test is performed dry, this proposal selects a higher DCOF to offset the difference.

The greatest risk of slipping and falling is the first step on/off a fire apparatus. It is often close to 24" up and from a completely open environment (surrounding pavement) to a limited step size. The firefighter's boot is often at a sharp angle on the edge of the step. It is very important that the boot not slip, either off the step or along the leading edge. Some step designs have high-traction inserts in the middle of the step but smooth bent metal along the leading edge. Because of the difficulty in testing an edge for DCOF there are no test criteria for this feature.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 13:04:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-411-NFPA 1900-2026](#)

Statement: Both the English XL tester and the Brungraber Mark II tester have been largely discredited in the slip resistance industry because their results are not repeatable or reliable. Both have had their ASTM standards withdrawn because of their lack of precision.

SAE has developed a recommended practice for measuring DCOF specifically designed to work well on large format grip

surfaces such as open grating, grip-strut, and diamond plate. It simulates a boot with a rubber sole on a stepping surface. The test procedure using this test fixture is defined in SAE J3351.

The minimum values have been selected based on testing of materials used in fire truck applications. Traditionally plain aluminum treadplate was used for stepping surfaces. In the 1990s when NFPA 1901 first introduced slip resistance requirements the industry developed the embossed aluminum treadplate material which had improved wet DCOF. The exterior WET minimum average DCOF in this proposed was selected based on the embossed treadplate performance with the idea that any other exterior surface would need to at least meet this same performance. Other considerations include the need for open-grate surfaces around fuel fill locations.

Interior surfaces are to be tested dry. Although interior surfaces can get wet, inside the risk of falling is less due to confined space, closeness of handrails, and more controlled environment. There are also other considerations when selecting interior surfaces such as acting as sound deadening, sound insulation, heat insulation, and comfort. This does not allow the same level of aggressiveness. While the interior test is performed dry, this proposal selects a higher DCOF to offset the difference.

The greatest risk of slipping and falling is the first step on/off a fire apparatus. It is often close to 24" up and from a completely open environment (surrounding pavement) to a limited step size. The firefighter's boot is often at a sharp angle on the edge of the step. It is very important that the boot not slip, either off the step or along the leading edge. Some step designs have high-traction inserts in the middle of the step but smooth bent metal along the leading edge. Because of the difficulty in testing an edge for DCOF there are no test criteria for this feature.

**Public Input No. 412-NFPA 1900-2025 [Section No. 12.8.2.2]****12.8.2.2 –**

The paint or coating, including any primer, shall be applied in accordance with the paint or coating manufacturer's recommendation.

Statement of Problem and Substantiation for Public Input

This is not a standard. A recommendation by definition is not a “shall” statement. Also, paint application is not a safety or performance issue. All automotive manufacturers work with their paint suppliers and follow their recommendations to ensure that warranty coverage is maintained.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 13:44:16 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-234-NFPA 1900-2026

Statement: This is not a standard. A recommendation by definition is not a “shall” statement. Also, paint application is not a safety or performance issue. All automotive manufacturers work with their paint suppliers and follow their recommendations to ensure that warranty coverage is maintained.

**Public Input No. 413-NFPA 1900-2025 [Section No. 12.8.3.1.2]****12.8.3.1.2**

The 4 in. (100 mm) wide stripe or combination of stripes shall be permitted to be interrupted by objects (e.g., receptacles, cracks between slats in roll-up doors) provided the full stripe is seen as ~~conspicuous when~~ contiguous when approaching the apparatus.

Statement of Problem and Substantiation for Public Input

Conspicuous seems to be the wrong word here. The point of this requirement is to allow interruptions in a stripe if the stripe still appears as a full stripe when approaching the vehicle. A stripe that was 6" pieces of stripe separated by 12" gaps would be conspicuous, but would not appear contiguous (or continuous). The breaks between pieces of striping on slats of a roll-up door would not break the appearance of a contiguous stripe from a distance. The latter should be allowed, the former should not.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 13:51:51 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-235-NFPA 1900-2026

Statement: Conspicuous seems to be the wrong word here. The point of this requirement is to allow interruptions in a stripe if the stripe still appears as a full stripe when approaching the vehicle. A stripe that was 6" pieces of stripe separated by 12" gaps would be conspicuous, but would not appear contiguous (or continuous). The breaks between pieces of striping on slats of a roll-up door would not break the appearance of a contiguous stripe from a distance. The latter should be allowed, the former should not.

**Public Input No. 307-NFPA 1900-2025 [Section No. 12.8.3.2 [Excluding any Sub-Sections]]**

On structural fire apparatus, at least 50 percent of the rear-facing vertical surfaces, visible from the rear of the apparatus, excluding any pump panel areas not covered by a door, shall be equipped with retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.

Statement of Problem and Substantiation for Public Input

Missing comma.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jun 16 13:15:06 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-236-NFPA 1900-2026](#)

Statement: Missing comma.

**Public Input No. 304-NFPA 1900-2025 [Section No. 12.9.8.2]****12.9.8.2**

The hose reel shall have a capacity of not less than 100 ft (30 m) of $\frac{3}{4}$ in. (19 mm) booster hose or 100 ft (30 m) of 1 1/2 in. (38 mm) collapsible hose.

Statement of Problem and Substantiation for Public Input

Hose reels are used for both round booster hose and collapsible hose.
This change is only needed if the committee does not delete this section.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Tue Jun 10 15:45:38 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-237-NFPA 1900-2026](#)

Statement: No particular reason the hose needs to be at least 100 ft (decon or other purposes)

**Public Input No. 414-NFPA 1900-2025 [Section No. 12.9.8.2]****12.9.8.2 –**

~~The hose reel shall have a capacity of not less than 100 ft (30 m) of 3/4 in. (19 mm) booster hose.~~

Statement of Problem and Substantiation for Public Input

No particular reason the hose needs to be at least 100 ft (decon or other purposes)

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 13:55:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-237-NFPA 1900-2026](#)

Statement: No particular reason the hose needs to be at least 100 ft (decon or other purposes)

**Public Input No. 415-NFPA 1900-2025 [Section No. 12.10]****12.10** Requirements for Mounting of Ground Ladders.**12.10.1**

Ground ladders shall be mounted and protected to ~~prevent movement~~ minimize movement , abrasion, or other damage to the ground ladder while they are on the fire apparatus.- [~~1932: 4.1.2~~]

12.10.2

When mounted on the apparatus, ground ladders shall not be subject to exposure to high heat sources (such as engine heat) of 212°F (100°C) or greater.- [~~1932: 4.1.3~~]

12.10.3

Ground ladders shall be supported to ~~prevent~~ minimize any sagging or distortion while they are mounted on the fire apparatus. [~~1932: 4.1.4~~]

12.10.4

The rollers and other moving parts of the frame holding the ground ladders on the apparatus shall be readily accessible to permit lubrication.

Statement of Problem and Substantiation for Public Input

The current wording is unrealistic. Mechanical wear is inevitable to any physical thing. The best we can do is to minimize wear.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 13:58:54 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-238-NFPA 1900-2026

Statement: The current wording is unrealistic. Mechanical wear is inevitable to any physical thing. The best we can do is to minimize wear.

**Public Input No. 89-NFPA 1900-2025 [Section No. 12.10]****12.10** Requirements for Mounting of Ground Ladders.**12.10.1**

Ground ladders shall be mounted and protected to prevent movement, abrasion, or other damage to the ground ladder while they are on the fire apparatus. [~~1932~~ **1930** :4 14 .4 2 .2]

12.10.2

When mounted on the apparatus, ground ladders shall not be subject to exposure to heat sources (such as engine heat) of 212°F (100°C) or greater. [~~1932~~ **1930** :4 14 .4 2 .3]

12.10.3

Ground ladders shall be supported to prevent any sagging or distortion while they are mounted on the fire apparatus. [~~1932~~ **1930** :4 14 .4 2 .4]

12.10.4

The rollers and other moving parts of the frame holding the ground ladders on the apparatus shall be readily accessible to permit lubrication.

Statement of Problem and Substantiation for Public Input

Update text to match new document numbers and chapters from consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	
Public Input No. 78-NFPA 1900-2025 [Section No. 2.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed Apr 30 16:17:47 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-238-NFPA 1900-2026](#)

Statement: The current wording is unrealistic. Mechanical wear is inevitable to any physical thing. The best we can do is to minimize wear.

**Public Input No. 416-NFPA 1900-2025 [Section No. 12.12.4.3]****12.12.4.3**

The slip-on module shall be mounted in a manner that ~~prevents~~ minimizes damage by vibration.

Statement of Problem and Substantiation for Public Input

The current wording is unrealistic. Mechanical wear is inevitable to any physical thing. The best we can do is to minimize wear.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 14:18:51 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-239-NFPA 1900-2026](#)

Statement: The current wording is unrealistic. Mechanical wear is inevitable to any physical thing. The best we can do is to minimize wear.

**Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]****12.13 Power-Operated Masts.**

Any power-operated mast shall meet the requirements of this section.

12.13.1 * _ _ General.**12.13.1.1 _**

The mast shall be designed to sustain the intended tip load with at least a 125 percent safety factor.

12.13.1.2 _

The mast shall withstand a minimum of a 50 mph (80 kph) wind in a raised, unguyed position.

12.13.2 * _ Installation and Operational Requirements.**12.13.2.1**

The mast shall be capable of being raised within 2 minutes.

12.13.2.2

Where the installation precludes the operator from seeing the masthead in its nested position, a means shall be provided to allow the operator to align the masthead for nesting when the operator is at the operator's position.

12.13.2.3 * _

Safety sign FAMA65, which warns of the hazards of electrocution shall be installed.

12.13.2.4 _

A means shall be provided to prevent operations that could cause damage to the wiring to the masthead.

12.13.2.5 _

In the event of a failure of the mast's raising system while the mast is deployed or being deployed, a means shall be provided to limit the rate of descent in order to prevent injury to equipment or personnel.

12.13.2.6 _

A secondary means of control shall be provided to allow for emergency lowering of the mast.

12.13.2.7 _

Where the mast is powered by the chassis air brake system, the air supply shall be from an auxiliary air circuit that is equipped with a pressure protection valve and an auxiliary air tank(s).

12.13.2.8 * _

An automatic de-energizing means shall be provided so there is no electrical power to the masthead light wiring when the mast is in a stowed position.

12.13.2.9 _

The hazard warning light required in Section 10.10 shall be illuminated whenever the mast is not in the stowed position.

12.13.2.10 _

The operational envelope of the mast shall be automatically illuminated whenever the mast assembly is being raised, lowered, or rotated.

12.13.3 Labeling.**12.13.3.1 _**

An instruction plate showing the operation of the mast and operational warning signs shall be provided at the operator's position.

12.13.3.2 _

A label shall be provided at the operator's position to indicate the following:

- (1) Extended mast height from the ground
- (2) Bulb replacement data for any relampable mast lights

Statement of Problem and Substantiation for Public Input

This text combines 21.14 (light masts) and 22.13 (command center masts) into generic information for any mast.
THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS/BODY TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]	
Public Input No. 371-NFPA 1900-2025 [Section No. 22.13]	
Public Input No. 372-NFPA 1900-2025 [Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8]	

[Public Input No. 373-NFPA 1900-2025 \[New Section after A.12.12.4.4\]](#)

[Public Input No. 370-NFPA 1900-2025 \[Section No. 21.14\]](#)

[Public Input No. 371-NFPA 1900-2025 \[Section No. 22.13\]](#)

[Public Input No. 372-NFPA 1900-2025 \[Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8\]](#)

[Public Input No. 373-NFPA 1900-2025 \[New Section after A.12.12.4.4\]](#)

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Tue Jul 15 11:14:54 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-409-NFPA 1900-2026](#)

Statement: This text combines 21.14 (light masts) and 22.13 (command center masts) into generic information for any mast.

**Public Input No. 28-NFPA 1900-2024 [Section No. 13.2.2]****13.2.2***

Where the apparatus is designed for "pump-and-roll" operations, the ~~vehicle drive engine and drive train shall be arranged so that the pump can deliver~~ pump shall be capable of delivering at least 20 gpm (76 L/min) at a gauge pressure of 80 psi (550 kPa) while the fire apparatus is moving at 2 mph (3.2 kmph) or less.

Statement of Problem and Substantiation for Public Input

The engine and drivetrain may not be used to create pump and roll. Some apparatus use separate engines or motors for pump and roll so the drive engine and drivetrain is not involved.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Wed Oct 16 15:39:41 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-314-NFPA 1900-2026](#)

Statement: The engine and drivetrain may not be used to create pump and roll. Some apparatus use separate engines or motors for pump and roll so the drive engine and drivetrain is not involved.

Updating due to consolidation.

**Public Input No. 384-NFPA 1900-2025 [Sections 13.2.3, 13.2.4]****Sections 13.2.3, 13.2.4****13.2.3 Pumping System Capability.****13.2.3.1**

If the pumping system is rated at less than 3000 gpm (12,000 L/min), it shall be capable of delivering the following:

- (1) One hundred percent of rated capacity at 150 psi (1000 kPa) net pump pressure
- (2) Seventy percent of rated capacity at 200 psi (1400 kPa) net pump pressure
- (3) Fifty percent of rated capacity at 250 psi (1700 kPa) net pump pressure

13.2.3.2*

If the pumping system is rated at 3000 gpm (12,000 L/min) or greater, it shall be capable of delivering the following:

- (1) One hundred percent of rated capacity at ~~400 psi (700 kPa) net pump pressure~~
Seventy percent of rated capacity at
150 psi (1000 kPa) net pump pressure
- (2) Fifty
Seventy percent of rated capacity at 200 psi (1400 kPa) net pump pressure
- (3) Seventy percent of rated capacity at 200 psi (1400 kPa) net pump pressure

13.2.3.3*

When dry, the pump system shall be capable of meeting the requirements of 13.2.3.3.1 through 13.2.3.3.5.

13.2.3.3.1

Where pumps are rated at less than 1500 gpm (6000 L/min), they shall be capable of taking suction through 20 ft (6 m) of suction hose under the conditions specified in 13.2.4.1 for the rated capacity of the pump and shall begin discharging water in not more than 30 seconds.

13.2.3.3.2

Where pumps are of 1500 gpm (6000 L/min) or larger but less than 3000 gpm (12,000 L/min), they shall be capable of taking suction through 20 ft (6 m) of suction hose under the conditions specified in 13.2.4.1 for the rated capacity of the pump and begin discharging water in not more than 45 seconds.

13.2.3.3.3

Where pumps are of 3000 gpm (12,000 L/min) or larger capacity, they shall be capable of taking suction through 20 ft (6 m) of suction hose under the conditions specified in 13.2.4.1 for the rated capacity of the pump and begin discharging water in not more than 90 seconds.

13.2.3.3.4

Where the pump system includes an auxiliary 4 in. (100 mm) or larger intake pipe having a volume of 1 ft³ (0.03 m³) or more, an additional 15 seconds beyond that allowed in 13.2.3.3.1, 13.2.3.3.2, and 13.2.3.3.3 shall be permitted.

13.2.3.3.5*

Where pumps are of the parallel/series type, they shall complete the requirements of 13.2.3.3.1 through 13.2.3.3.4 in both parallel and series operation.

13.2.3.4 Vacuum.**13.2.3.4.1**

The completed pumping system shall be capable of developing a vacuum of 22 in. Hg (75 kPa) at altitudes up to 2000 ft (600 m) by means of the pump priming system and sustaining the vacuum for at least 5 minutes with a loss not to exceed 10 in. Hg (34 kPa).

13.2.3.4.2

The requirement in 13.2.3.4.1 shall be met with all intake valves open, with all intakes capped or plugged, with all discharge caps removed and valves closed, and without the use of the pump primer during the 5-minute period.

13.2.4 Pump Suction Capability.

13.2.4.1*

The pump manufacturer shall certify that the fire pump is capable of pumping 100 percent of rated capacity at 150 psi (1000 kPa) net pump pressure for pumps rated at less than 3000 gpm (12,000 L/min) or at 100 psi (700 kPa) for pumps rated at 3000 gpm (12,000 L/min) or greater from draft through 20 ft (6 m) of suction hose with a strainer attached under the following conditions:

- (1) An altitude of 2000 ft (600 m) above sea level
- (2) Atmospheric pressure of 29.9 in. Hg (101 kPa) (corrected to sea level)
- (3) Water temperature of 60°F (15.6°C)
- (4) Suction hose size and number of hose not to exceed those indicated in Table 13.2.4.1(a)
- (5) Lift as indicated in Table 13.2.4.1(a)
- (6) Friction and entrance loss in suction hose, including strainer, as given in Table 13.2.4.1(b) or Table 13.2.4.1(c)

Table 13.2.4.1(a) Suction Hose Size, Number of Suction Lines, and Lift for Pump Manufacturer's Suction Capability Certification

<u>Rated Capacity</u>		<u>Suction Hose Size</u>				<u>Number of Suction Lines</u>	<u>Lift</u>	
<u>gpm</u>	<u>L/min</u>		<u>in.</u>	<u>mm</u>			<u>ft</u>	<u>m</u>
250	1,000	-	3	75	-	1	10	3
300	1,100	-	3	75	-	1	10	3
350	1,300	-	4	100	-	1	10	3
500	2,000	-	4½	110	-	1	10	3
750	3,000	-	4½	110	-	1	10	3
1,000	4,000	-	6	150	-	1	10	3
1,250	5,000	-	6	150	-	1	10	3
1,500	6,000	-	6	150	-	2	10	3
1,750	7,000	-	6	150	-	2	8	2.4
2,000	8,000	-	6	150	-	2	6	1.8
2,000	8,000	-	8	200	-	1	6	1.8
2,250	9,000	-	6	150	-	3	6	1.8
2,250	9,000	-	8	200	-	1	6	1.8
2,500	10,000	-	6	150	-	3	6	1.8
2,500	10,000	-	8	200	-	1	6	1.8
3,000	12,000	-	6	150	-	3	6	1.8
3,000	12,000	-	8	200	-	2	6	1.8
3,500	14,000	-	6	150	-	4	6	1.8
3,500	14,000	-	8	200	-	2	6	1.8
4,000	16,000	-	6	150	-	4	6	1.8
4,000	16,000	-	8	200	-	2	6	1.8
4,500	18,000	-	6	150	-	6	6	1.8
4,500	18,000	-	8	200	-	3	6	1.8
5,000	20,000	-	6	150	-	6	6	1.8
5,000	20,000	-	8	200	-	3	6	1.8
5,500	22,000	-	6	150	-	6	6	1.8
5,500	22,000	-	8	200	-	4	6	1.8
5,500	22,000	-	12	300	-	2	6	1.8
6,000	24,000	-	6	150	-	6	6	1.8
6,000	24,000	-	8	200	-	4	6	1.8
6,000	24,000	-	12	300	-	2	6	1.8
6,500	26,000	-	8	200	-	4	6	1.8
6,500	26,000	-	12	300	-	2	6	1.8
7,000	28,000	-	8	200	-	4	6	1.8
7,000	28,000	-	12	300	-	2	6	1.8
7,500	30,000	-	8	200	-	4	6	1.8
7,500	30,000	-	12	300	-	2	6	1.8

Table 13.2.4.1(b) Friction and Entrance Loss in 20 ft of Suction Hose, Including Strainer (United States customary system [USCS] units)

<u>Flow Rate (gpm)</u>	<u>Number of Suction Hose and Size (inside diameter)</u>									
	<u>One 3 in.</u>		<u>One 4 in.</u>		<u>One 4½ in.</u>		<u>One 5 in.</u>		<u>One 6 in.</u>	
	<u>ft water</u>	<u>in. Hg</u>	<u>ft water</u>	<u>in. Hg</u>	<u>ft water</u>	<u>in. Hg</u>	<u>ft water</u>	<u>in. Hg</u>	<u>ft water</u>	<u>in. Hg</u>
250	5.2	4.6	-	-	-	-	-	-	-	-
175	2.6	2.3	-	-	-	-	-	-	-	-

Number of Suction Hose and Size (inside diameter)												
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.			
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg		
125	1.4	1.2	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
300	7.5	6.6	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
210	3.8	3.4	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
150	1.9	1.7	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
350	-	-	-	-	2.5	2.1	-	-	-	-	-	-
245	-	-	-	-	1.2	1.1	-	-	-	-	-	-
175	-	-	-	-	0.7	0.6	-	-	-	-	-	-
500	-	-	-	-	5.0	4.4	-	3.6	3.2	-	-	-
350	-	-	-	-	2.5	2.1	-	1.8	1.6	-	-	-
250	-	-	-	-	1.3	1.1	-	0.9	0.8	-	-	-
750	-	-	-	-	11.4	9.8	-	8.0	7.1	-	4.7	4.2
525	-	-	-	-	5.5	4.9	-	3.9	3.4	-	2.3	2.0
375	-	-	-	-	2.8	2.5	-	2.0	1.8	-	1.2	1.1
1000	-	-	- - -	-	-	-	-	14.5	12.5	-	8.4	7.4
700	-	-	- - -	-	-	-	-	7.0	6.2	-	4.1	3.7
500	-	-	- - -	-	-	-	-	3.6	3.2	-	2.1	1.9
Flow Rate (gpm)	One 5 in.		One 6 in.		Two 4½ in.		Two 5 in.		Two 6 in.			
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg		
1250	13.0	11.5	-	5.2	4.7	-	5.5	4.9	-	-	-	-
875	6.5	5.7	-	2.6	2.3	-	2.8	2.5	-	-	-	-
625	3.3	2.9	-	1.3	1.1	-	1.4	1.2	-	-	-	-
1500	-	-	-	-	7.6	6.7	-	8.0	7.1	-	4.7	4.2
1050	-	-	-	-	3.7	3.3	-	3.9	3.4	-	2.3	2.0
750	-	-	-	-	1.9	1.7	-	2.0	1.8	-	1.2	1.1
1750	-	-	-	-	10.4	9.3	-	11.0	9.7	-	6.5	5.7
1225	-	-	-	-	5.0	4.6	-	5.3	4.7	-	3.1	2.7
875	-	-	-	-	2.6	2.3	-	2.8	2.5	-	1.6	1.4
2000	-	-	- - -	-	-	-	-	14.5	12.5	-	8.4	7.4
1400	-	-	- - -	-	-	-	-	7.0	6.2	-	4.1	3.7
1000	-	-	- - -	-	-	-	-	3.6	3.2	-	2.1	1.9
2250	-	-	- - -	-	-	-	-	-	-	-	10.8	9.5
1575	-	-	- - -	-	-	-	-	-	-	-	5.3	4.7
1125	-	-	- - -	-	-	-	-	-	-	-	2.8	2.5
2500	-	-	- - -	-	-	-	-	-	-	-	13.0	11.5
1750	-	-	- - -	-	-	-	-	-	-	-	6.5	5.7
1250	-	-	- - -	-	-	-	-	-	-	-	3.3	2.9
Flow Rate (gpm)	Two 6 in.		Three 6 in.		Four 6 in.		One 8 in.		Two 8 in.			
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg		
2000	3.4	3.0	- - -	- - -	-	-	-	-	4.3	3.8	- - -	-
1400	1.7	1.5	- - -	- - -	-	-	-	-	2.0	1.8	- - -	-
1000	0.9	0.8	- - -	- - -	-	-	-	-	1.0	0.9	- - -	-
2250	4.3	3.8	-	2.0	1.8	- - -	-	-	5.6	5.0	-	1.2
1575	2.2	1.9	-	1.0	0.9	- - -	-	-	2.5	2.2	-	0.6
1125	1.1	1.0	-	0.5	0.5	- - -	-	-	1.2	1.1	-	0.3
2500	5.2	4.7	-	2.3	2.0	- - -	-	-	7.0	6.2	-	1.5
1750	2.6	2.3	-	1.2	1.1	- - -	-	-	3.2	2.8	-	0.8
1250	1.3	1.1	-	0.6	0.5	- - -	-	-	1.5	1.3	-	0.4
3000	7.6	6.9	-	3.4	3.0	- - -	-	- - -	-	-	-	2.3
2100	3.7	3.4	-	1.7	1.5	- - -	-	- - -	-	-	-	1.0
1500	1.9	1.7	-	0.9	0.8	- - -	-	- - -	-	-	-	0.6
3500	4.7	4.3	-	2.6	2.3	- - -	-	-	3.2	2.8	-	-
2450	2.9	2.6	-	1.2	1.1	- - -	-	-	1.5	1.3	-	-
1750	1.2	1.1	-	0.7	0.6	- - -	-	-	0.7	0.6	-	-

Number of Suction Hose and Size (inside diameter)													
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.				
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	
4000	-	-	-	-	3.4	3.0	-	-	-	-	4.3	3.8	-
2800	-	-	-	-	1.7	1.5	-	-	-	-	2.0	1.8	-
2000	-	-	-	-	0.9	0.8	-	-	-	-	1.0	0.9	-
4500	-	-	-	-	-	-	2.1	1.9	-	-	-	-	2.3 2.0
3150	-	-	-	-	-	-	1.1	1.0	-	-	-	-	1.2 1.0
2250	-	-	-	-	-	-	0.55	0.45	-	-	-	-	0.6 0.5
5000	-	-	-	-	-	-	2.3	2.0	-	-	-	-	2.5 2.2
3500	-	-	-	-	-	-	1.2	1.1	-	-	-	-	1.5 1.3
2500	-	-	-	-	-	-	0.6	0.5	-	-	-	-	0.7 0.6
Flow Rate (gpm)	Six 6 in.		Four 8 in.		Two 12 in.								
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg					
5500	2.5	2.2	2.1	1.9	1.9	1.7	-	-	-	-	-	-	-
3850	1.4	1.2	0.9	0.8	0.8	0.7	-	-	-	-	-	-	-
2750	0.7	0.6	0.5	0.4	0.46	0.36	-	-	-	-	-	-	-
6000	3.4	3.0	2.3	2.1	2.1	1.9	-	-	-	-	-	-	-
4200	2.0	1.7	1.0	0.9	0.9	0.8	-	-	-	-	-	-	-
3000	1.7	1.5	0.6	0.5	0.5	0.4	-	-	-	-	-	-	-
6500	-	-	-	-	2.5	2.2	-	2.3	2.1	-	-	-	-
4550	-	-	-	-	1.1	1.0	-	1.0	0.9	-	-	-	-
3250	-	-	-	-	0.7	0.6	-	0.6	0.5	-	-	-	-
7000	-	-	-	-	3.3	2.9	-	2.5	2.2	-	-	-	-
4900	-	-	-	-	1.5	1.3	-	1.1	1.0	-	-	-	-
3500	-	-	-	-	0.7	0.6	-	0.7	0.6	-	-	-	-
7500	-	-	-	-	3.7	3.3	-	2.7	2.5	-	-	-	-
5250	-	-	-	-	1.9	1.7	-	1.3	1.1	-	-	-	-
3750	-	-	-	-	1.1	1	-	0.9	0.8	-	-	-	-

Table 13.2.4.1(c) Friction and Entrance Loss in 6 m of Suction Hose, Including Strainer (SI units)

Number of Suction Hose and Size (inside diameter)													
Flow Rate (L/min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm				
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	
1,000	1.6	16	-	-	-	-	-	-	-	-	-	-	-
700	0.8	8	-	-	-	-	-	-	-	-	-	-	-
500	0.4	4	-	-	-	-	-	-	-	-	-	-	-
1,100	2.2	22	-	-	-	-	-	-	-	-	-	-	-
770	1.1	12	-	-	-	-	-	-	-	-	-	-	-
550	0.6	6	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,300	-	-	-	-	0.7	7	-	-	-	-	-	-	-
910	-	-	-	-	0.4	4	-	-	-	-	-	-	-
650	-	-	-	-	0.2	2	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,000	-	-	-	-	1.5	15	-	1.1	11	-	-	-	-
1,400	-	-	-	-	0.7	7	-	0.5	5	-	-	-	-
1,000	-	-	-	-	0.4	4	-	0.3	3	-	-	-	-
3,000	-	-	-	-	3.5	33	-	2.4	24	-	1.4	14	-
2,100	-	-	-	-	1.7	17	-	1.2	11	-	0.7	7	-
1,500	-	-	-	-	0.9	8	-	0.6	6	-	0.4	4	-
4,000	-	-	-	-	-	-	-	4.4	42	-	2.6	25	-
2,800	-	-	-	-	-	-	-	2.1	21	-	1.2	13	-
2,000	-	-	-	-	-	-	-	1.1	11	-	0.6	6	-

Number of Suction Hose and Size (inside diameter)																
Flow Rate (L/min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm							
	m	kPa	m	kPa	m	kPa	m	kPa	m	kPa						
Flow Rate (L/min)	One 125 mm		One 150 mm		Two 110 mm		Two 125 mm		Two 150 mm							
	m	kPa	m	kPa	m	kPa	m	kPa	m	kPa						
5,000	4.0	39	1.6	16	1.7	17	-	-	-	-	-	-	-	-	-	-
3,500	2.0	19	0.8	8	0.9	8	-	-	-	-	-	-	-	-	-	-
2,500	1.0	10	0.4	4	0.4	4	-	-	-	-	-	-	-	-	-	-
6,000	-	-	-	-	2.3	23	-	-	2.4	24	-	1.4	14	-	0.6	6
4,200	-	-	-	-	1.1	11	-	-	1.2	12	-	0.7	7	-	0.3	3
3,000	-	-	-	-	0.6	6	-	-	0.6	6	-	0.4	4	-	0.2	2
7,000	-	-	-	-	3.2	31	-	-	3.6	33	-	2.0	19	-	0.8	8
4,900	-	-	-	-	1.5	16	-	-	1.6	16	-	0.9	9	-	0.4	4
3,500	-	-	-	-	0.8	8	-	-	0.9	8	-	0.5	5	-	0.2	2
8,000	-	-	-	-	-	-	-	-	4.4	42	-	2.6	25	-	1.0	10
5,600	-	-	-	-	-	-	-	-	2.1	21	-	1.2	13	-	0.5	5
4,000	-	-	-	-	-	-	-	-	1.1	11	-	0.6	6	-	0.3	3
9,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	32
6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	16
4,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	8
10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	39
7,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	19
5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	10
Flow Rate (L/min)	Two 150 mm		Three 150 mm		Four 150 mm		One 200 mm		Two 200 mm							
	m	kPa	m	kPa	m	kPa	m	kPa	m	kPa						
8,000	1.0	10	-	-	-	-	-	-	-	-	1.3	13	-	-	-	-
5,600	0.5	5	-	-	-	-	-	-	-	-	0.6	6	-	-	-	-
4,000	0.3	3	-	-	-	-	-	-	-	-	0.3	3	-	-	-	-
9,000	1.3	13	-	0.6	6	-	-	-	-	1.7	17	-	0.4	4	-	-
6,300	0.7	6	-	0.3	3	-	-	-	-	0.7	7	-	0.2	2	-	-
4,500	0.3	3	-	0.2	2	-	-	-	-	0.4	4	-	0.1	1	-	-
10,000	1.6	16	-	0.7	7	-	-	-	-	2.1	21	-	0.5	4	-	-
7,000	0.8	8	-	0.4	4	-	-	-	-	1.0	9	-	0.2	2	-	-
5,000	0.4	4	-	0.2	2	-	-	-	-	0.5	4	-	0.1	1	-	-
12,000	2.3	23	-	1.09	10.1	-	-	-	-	-	-	-	-	-	0.7	7
8,400	1.1	12	-	0.52	5.1	-	-	-	-	-	-	-	-	-	0.3	3
6,000	0.58	5.7	-	0.27	2.71	-	-	-	-	-	-	-	-	-	0.18	1.69
14,000	-	-	-	-	1.42	13.9	-	0.8	8	-	-	-	-	-	1.0	9
9,800	-	-	-	-	0.88	8.6	-	0.4	4	-	-	-	-	-	0.5	4
7,000	-	-	-	-	0.36	3.56	-	-	-	-	-	-	0.21	2.03	-	0.21
16,000	-	-	-	-	1.5	15	-	1.0	10	-	-	-	-	-	1.3	13
11,200	-	-	-	-	0.9	8	-	0.5	5	-	-	-	-	-	0.6	6
8,000	-	-	-	-	-	-	-	0.27	2.71	-	-	-	-	-	-	0.31
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm									
	m	kPa	m	kPa	m	kPa	m	kPa								
18,000	0.64	6.43	-	0.7	6.77	-	-	-	-	-	-	-	-	-	-	-
12,600	0.33	3.38	-	0.37	3.38	-	-	-	-	-	-	-	-	-	-	-
9,000	0.17	1.52	-	0.18	1.69	-	-	-	-	-	-	-	-	-	-	-
20,000	0.7	6.77	-	0.76	7.45	-	-	-	-	-	-	-	-	-	-	-
14,000	0.37	3.72	-	0.46	4.4	-	-	-	-	-	-	-	-	-	-	-
10,000	0.18	1.69	-	0.21	2.03	-	-	-	-	-	-	-	-	-	-	-
22,000	0.76	7.45	-	-	-	-	0.64	6.43	-	0.58	5.76	-	-	-	-	-

Number of Suction Hose and Size (inside diameter)													
Flow Rate (L/min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm				
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa			
15,400	0.43	4.06	-	-	-	-	0.27	2.71	-	0.24	2.37	-	-
11,000	0.21	2.03	-	-	-	-	0.15	1.35	-	0.15	1.22	-	-
24,000	1.04	10.16	-	-	-	-	0.7	7.11	-	0.64	6.43	-	-
16,800	0.61	5.76	-	-	-	-	0.31	3.05	-	0.27	2.71	-	-
12,000	0.51	5.08	-	-	-	-	0.18	1.69	-	0.15	1.35	-	-

Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm						
	m water	kPa	m water	kPa	m water	kPa	m water	kPa					
26,000	-	-	-	0.76	-	-	7.45	-	-	0.7	7.11	-	-
18,200	-	-	-	0.33	-	-	3.38	-	-	0.33	3.05	-	-
13,000	-	-	-	0.21	-	-	2.03	-	-	0.18	1.69	-	-
28,000	-	-	-	1.0	-	-	9.82	-	-	0.76	7.45	-	-
19,600	-	-	-	0.46	-	-	4.4	-	-	0.33	3.38	-	-
14,000	-	-	-	0.21	-	-	2.03	-	-	0.21	2.03	-	-
30,000	-	-	-	1.13	-	-	11.17	-	-	0.82	8.47	-	-
21,000	-	-	-	0.58	-	-	5.76	-	-	0.4	3.72	-	-
15,000	-	-	-	0.33	-	-	3.38	-	-	0.27	2.71	-	-

13.2.4.2*

The pump manufacturer shall certify that the pump is capable of pumping rated capacity at 150 psi (1000 kPa) net pump pressure for pumps rated at less than 3000 gpm (12,000 L/min) or at 100 psi (700 kPa) for pumps rated at 3000 gpm (12,000 L/min) or greater at any of the following special conditions when these conditions are specified by the purchaser:

- (1) At an elevation above 2000 ft (600 m)
- (2) At lifts higher than those listed in Table 13.2.4.1(a), through more than 20 ft (6 m) of suction hose, or both
- (3) For pumps having a rated capacity of 1500 gpm (6000 L/min) or larger, through a single suction hose only, or through the number of hose listed in Table 13.2.4.1(a) attached to one side of the apparatus only

Statement of Problem and Substantiation for Public Input

Rate all fire pumps at 150 psi, consistent across all flows and consistent with international pump ratings. The lower pressure ratings for larger pumps was based on the expectation/fear that the 2010 engines would not be able to match the horsepower of earlier engines. This expectation did not materialize, and larger engines continue to be available. Making this change would not only make US fire pump ratings consistent with foreign ratings of the same pumps, but they would be consistent across sizes. With all centrifugal fire pumps, lower pressure gives larger flow at the same drive speed. Under the current stepped rating system, a 2500 gpm at 150 psi pump (1750 at 200 psi, 1250 at 250 psi) is almost identical in performance to a 3500 gpm 100 psi (2450 gpm at 150 psi, 1750 gpm at 200 psi). Is this a 2500 gpm pump or a 3500 gpm pump? Likewise a 2750 gpm pump could be called a 4000 gpm pump. A 3000 gpm pump is really only a relabeled 2100 gpm pump. This would make no difference in what a specific configuration of engine and pump could produce, just what it could be called in ratings and advertising. It would be a more honest and consistent definition. Since industrial pumps seldom require 250 psi output (it is too high for large diameter hose capable of moving the water anyway), skip the 250 psi rating on 3000+ gpm pumps.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 385-NFPA 1900-2025 [Section No. 13.13.2.3.6]	
Public Input No. 386-NFPA 1900-2025 [Section No. 13.13.4]	
Public Input No. 151-NFPA 1900-2025 [Section No. 13.13.9.1]	
Public Input No. 151-NFPA 1900-2025 [Section No. 13.13.9.1]	
Public Input No. 385-NFPA 1900-2025 [Section No. 13.13.2.3.6]	
Public Input No. 386-NFPA 1900-2025 [Section No. 13.13.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jul 19 14:43:30 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-422-NFPA 1900-2026](#)

Statement: Rate all fire pumps at 150 psi, consistent across all flows and consistent with international pump ratings. The lower pressure ratings for larger pumps was based on the expectation/fear that the 2010 engines would not be able to match the horsepower of earlier engines. This expectation did not materialize, and larger engines continue to be available. Making this change would not only make US fire pump ratings consistent with foreign ratings of the same pumps, but they would be consistent across sizes. With all centrifugal fire pumps, lower pressure gives larger flow at the same drive speed. Under the current stepped rating system, a 2500 gpm at 150 psi pump(1750 at 200 psi, 1250 at 250 psi) is almost identical in performance to a 3500 gpm 100 psi (2450 gpm at 150 psi, 1750 gpm at 200 psi). Is this a 2500 gpm pump or a 3500 gpm pump? Likewise a 2750 gpm pump could be called a 4000 gpm pump. A 3000 gpm pump is really only a relabeled 2100 gpm pump. This would make no difference in what a specific configuration of engine and pump could produce, just what it could be called in ratings and advertising. It would be a more honest and consistent definition. Since industrial pumps seldom require 250 psi output (it is too high for large diameter hose capable of moving the water anyway), skip the 250 psi rating on 3000+ gpm pumps.

The ULC-515 Task Group noted that the conversions from US Gallons to Liters throughout the standard is not accurate. This public input is intended as a place holder for the NFPA 1900 committee to reconsider the practice of rounding off the values in liters.

**Public Input No. 3-NFPA 1900-2024 [Section No. 13.2.3.1]****13.2.3.1**

If the pumping system is rated at less than 3000 gpm (~~12 11 ,000 L~~ 355 L /min), it shall be capable of delivering the following:

- (1) One hundred percent of rated capacity at 150 psi (1000 kPa) net pump pressure
- (2) Seventy percent of rated capacity at 200 psi (1400 kPa) net pump pressure
- (3) Fifty percent of rated capacity at 250 psi (1700 kPa) net pump pressure

Statement of Problem and Substantiation for Public Input

The ULC-515 Task Group noted that the conversions from US Gallons to Liters throughout the standard is not accurate. This public input is intended as a place holder for the NFPA 1900 committee to reconsider the practice of rounding off the values in liters.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: ULC 515 Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Feb 29 11:42:38 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: The committee has chosen to take this action as they believe that nominal metric pump ratings should be provided.



Public Input No. 152-NFPA 1900-2025 [Section No. 13.2.4.1]

13.2.4.1*

The pump manufacturer shall certify that the fire pump is capable of pumping 100 percent of rated capacity at 150 psi (1000 kPa) net pump pressure for pumps rated at less than 3000 gpm (12,000 L/min) or at 100 psi (700 kPa) for pumps rated at 3000 gpm (12,000 L/min) or greater from draft through 20 ft (6 m) of suction hose with a strainer attached under the following conditions:

- (1) An altitude of 2000 ft (600 m) above sea level
- (2) Atmospheric pressure of 29.9 in. Hg (101 kPa) (corrected to sea level)
- (3) Water temperature of 60°F (15.6°C)
- (4) Suction hose size and number of hose not to exceed those indicated in Table 13.2.4.1(a)
- (5) Lift as indicated in Table 13.2.4.1(a)
- (6) Friction and entrance loss in suction hose, including strainer, as given in Table 13.2.4.1(b) or Table 13.2.4.1(c)

Table 13.2.4.1(a) Suction Hose Size, Number of Suction Lines, and Lift for Pump Manufacturer's Suction Capability Certification

<u>Rated Capacity</u>		<u>Suction Hose Size</u>		<u>Lift</u>	
<u>gpm</u>	<u>L/min</u>	<u>in.</u>	<u>mm</u>	<u>Number of Suction Lines</u>	<u>ft</u> <u>m</u>
250	1,000	3	75	1	10 3
300	1,100	3	75	1	10 3
350	1,300	4	100	1	10 3
500	2,000	4½	110	1	10 3
750	3,000	4½	110	1	10 3
1,000	4,000	6	150	1	10 3
1,250	5,000	6	150	1	10 3
1,500	6,000	6	150	2	10 3
1,750	7,000	6	150	2	8 2.4
2,000	8,000	6	150	2	6 1.8
2,000	8,000	8	200	1	6 1.8
2,250	9,000	6	150	3	6 1.8
2,250	9,000	8	200	1	6 1.8
2,500	10,000	6	150	3	6 1.8
2,500	10,000	8	200	1	6 1.8
3,000	12,000	6	150	3	6 1.8
3,000	12,000	8	200	2	6 1.8
3,500	14,000	6	150	4	6 1.8
3,500	14,000	8	200	2	6 1.8
4,000	16,000	6	150	4	6 1.8
4,000	16,000	8	200	2	6 1.8
4,500	18,000	6	150	6	6 1.8
4,500	18,000	8	200	3	6 1.8
5,000	20,000	6	150	6	6 1.8
5,000	20,000	8	200	3	6 1.8
5,500	22,000	6	150	6	6 1.8
5,500	22,000	8	200	4	6 1.8
5,500	22,000	12	300	2	6 1.8
6,000	24,000	6	150	6	6 1.8
6,000	24,000	8	200	4	6 1.8
6,000	24,000	12	300	2	6 1.8
6,500	26,000	8	200	4	6 1.8
6,500	26,000	12	300	2	6 1.8
7,000	28,000	8	200	4	6 1.8
7,000	28,000	12	300	2	6 1.8
7,500	30,000	8	200	4	6 1.8
7,500	30,000	12	300	2	6 1.8

Table 13.2.4.1(b) Friction and Entrance Loss in 20 ft of Suction Hose, Including Strainer (United States customary system [USCS] units)

[THESE NUMBERS NEED TO BE VERIFIED BY GARY HANDWERK OR THE PUMP TASK GROUP, AND THERE ARE A FEW NUMBERS I CAN NOT COME UP WITH.]

<u>Number of Suction Hose and Size (inside diameter)</u>					
<u>Flow</u>	<u>One 3 in.</u>	<u>One 4 in.</u>	<u>One 4½ in.</u>	<u>One 5 in.</u>	<u>One 6 in.</u>

Rate (gpm)	ft water	in. Hg			ft water	in. Hg			ft water	in. Hg			ft water	in. Hg			ft water	in. Hg
250	5.2	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	2.6	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125	1.4	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	7.5	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	3.8	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	1.9	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	2.5	2.1	-	-	-	-	-	-	-	-	-	-	-
245	-	-	-	-	-	1.2	1.1	-	-	-	-	-	-	-	-	-	-	-
175	-	-	-	-	-	0.7	0.6	-	-	-	-	-	-	-	-	-	-	-
500	-	-	-	-	-	5.0	4.4	-	-	3.6	3.2	-	-	-	-	-	-	-
350	-	-	-	-	-	2.5	2.1	-	-	1.8	1.6	-	-	-	-	-	-	-
250	-	-	-	-	-	1.3	1.1	-	-	0.9	0.8	-	-	-	-	-	-	-
750	-	-	-	-	-	11.4	9.8	-	-	8.0	7.1	-	4.7	4.2	-	1.9	1.7	-
525	-	-	-	-	-	5.5	4.9	-	-	3.9	3.4	-	2.3	2.0	-	0.9	0.8	-
375	-	-	-	-	-	2.8	2.5	-	-	2.0	1.8	-	1.2	1.1	-	0.5	0.5	-
1000	-	-	-	-	-	-	-	-	-	14.5	12.5	-	8.4	7.4	-	3.4	3.0	-
700	-	-	-	-	-	-	-	-	-	7.0	6.2	-	4.1	3.7	-	1.7	1.5	-
500	-	-	-	-	-	-	-	-	-	3.6	3.2	-	2.1	1.9	-	0.9	0.8	-
Flow Rate (gpm)	One 5 in.				One 6 in.				Two 4½ in.				Two 5 in.				Two 6 in.	
	ft water	in. Hg			ft water	in. Hg			ft water	in. Hg			ft water	in. Hg			ft water	in. Hg
1250	13.0	11.5	-	-	5.2	4.7	-	-	5.5	4.9	-	-	-	-	-	-	-	-
875	6.5	5.7	-	-	2.6	2.3	-	-	2.8	2.5	-	-	-	-	-	-	-	-
625	3.3	2.9	-	-	1.3	1.1	-	-	1.4	1.2	-	-	-	-	-	-	-	-
1500	-	-	-	-	-	7.6	6.7	-	-	8.0	7.1	-	4.7	4.2	-	1.9	1.7	-
1050	-	-	-	-	-	3.7	3.3	-	-	3.9	3.4	-	2.3	2.0	-	0.9	0.8	-
750	-	-	-	-	-	1.9	1.7	-	-	2.0	1.8	-	1.2	1.1	-	0.5	0.5	-
1750	-	-	-	-	-	10.4	9.3	-	-	11.0	9.7	-	6.5	5.7	-	2.6	2.3	-
1225	-	-	-	-	-	5.0	4.6	-	-	5.3	4.7	-	3.1	2.7	-	1.2	1.1	-
875	-	-	-	-	-	2.6	2.3	-	-	2.8	2.5	-	1.6	1.4	-	0.7	0.6	-
2000	-	-	-	-	-	-	-	-	-	-	-	-	14.5	12.5	-	8.4	7.4	-
1400	-	-	-	-	-	-	-	-	-	-	-	-	7.0	6.2	-	4.1	3.7	-
1000	-	-	-	-	-	-	-	-	-	-	-	-	3.6	3.2	-	2.1	1.9	-
2250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.8	9.5	-
1575	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	4.7	-
1125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	2.5	-
2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.0	11.5	-
1750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	5.7	-
1250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	2.9	-
Flow Rate (gpm)	Two 6 in.				Three 6 in.				Four 6 in.				One 8 in.				Two 8 in.	
	ft water	in. Hg			ft water	in. Hg			ft water	in. Hg			ft water	in. Hg			ft water	in. Hg
2000	3.4	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	3.8	-
1400	1.7	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	1.8	-
1000	0.9	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	0.9	-
2250	4.3	3.8	-	-	2.0	1.8	-	-	-	-	-	-	5.6	5.0	-	1.2	1.1	-
1575	2.2	1.9	-	-	1.0	0.9	-	-	-	-	-	-	2.5	2.2	-	0.6	0.5	-
1125	1.1	1.0	-	-	0.5	0.5	-	-	-	-	-	-	1.2	1.1	-	0.3	0.3	-
2500	5.2	4.7	-	-	2.3	2.0	-	-	-	-	-	-	7.0	6.2	-	1.5	1.3	-
1750	2.6	2.3	-	-	1.2	1.1	-	-	-	-	-	-	3.2	2.8	-	0.8	0.7	-
1250	1.3	1.1	-	-	0.6	0.5	-	-	-	-	-	-	1.5	1.3	-	0.4	0.4	-
3000	7.6	6.9	-	-	3.4	3.0	-	-	-	-	-	-	-	-	-	-	-	2.3 2.1
2100	3.7	3.4	-	-	1.7	1.5	-	-	-	-	-	-	-	-	-	-	-	1.0 0.9
1500	1.9	1.7	-	-	0.9	0.8	-	-	-	-	-	-	0.6	0.5	3500	-	-	-
Flow	Two 6 in.				Three 6 in.				Four 6 in.				One 8 in.				Two 8 in.	

Rate (gpm)	ft water	in. Hg				ft water	in. Hg				ft water	in. Hg				ft water	in. Hg									
3500	10.4	9.3				4.7	4.3	-			2.6	2.3			- ? -	?	-	-	3.2	2.8	-					
2450	-	-	2450	5.0	4.6				2.9	2.6	-			1.2	1.1	-	?	?			1.5	1.3	-			
1750	-	-	1750	2.6	2.3				1.2	1.1	-			0.7	0.6		-	-			3.2	2.8	0.7	0.6		
4000	-	-	-						4.8	4.3		3.4	3.0	- ? -	?	-	-			4.3	3.8	-	-	-		
2800	-	-	-						2.8	2.5		1.7	1.5	-	?	?	-	-			2.0	1.8	-	-	-	
2000				?	?	-			0.9	0.8		-	-	-	-		4.3	3.8			1.0	0.9	-	-	-	4
									Six 6 in.											Three 8 in.						
Flow Rate (gpm)							ft water	in. Hg					ft water	in. Hg												
4500							2.1	1.9	-	-	-	-							2.3	2.0						
3150	-	-	-	-	-	-											1.1	1.0	-	-	-	-				
2250	-	-	-	-	-	-											0.55	0.45	-	-	-	-				
5000	-	-	-	-	-	-											2.3	2.0	-	-	-	-				
3500	-	-	-	-	-	-											1.2	1.1	-	-	-	-				
2500	-	-	-	-	-	-											0.6	0.5	-	-	-	-				
Flow Rate (gpm)	Six 6 in.		-				Four 8 in.		-			Two 12 in.		-	-	-	-	-	-	-						
	ft water	in. Hg	-				ft water	in. Hg	-			ft water	in. Hg	-	-	-	-	-	-	-						
5500	2.5	2.2	-				2.1	1.9	-			1.9	1.7	-	-	-	-	-	-	-						
3850	1.4	1.2	-				0.9	0.8	-			0.8	0.7	-	-	-	-	-	-	-						
2750	0.7	0.6	-				0.5	0.4	-			0.46	0.36	-	-	-	-	-	-	-						
6000	3.4	3.0	-				2.3	2.1	-			2.1	1.9	-	-	-	-	-	-	-						
4200	2.0	1.7	-				1.0	0.9	-			0.9	0.8	-	-	-	-	-	-	-						
3000	1.7	1.5	-				0.6	0.5	-			0.5	0.4	-	-	-	-	-	-	-						
6500	-	-	-				2.5	2.2	-			2.3	2.1	-	-	-	-	-	-	-	-	-				
4550	-	-	-				1.1	1.0	-			1.0	0.9	-	-	-	-	-	-	-	-	-				
3250	-	-	-				0.7	0.6	-			0.6	0.5	-	-	-	-	-	-	-	-	-				
7000	-	-	-				3.3	2.9	-			2.5	2.2	-	-	-	-	-	-	-	-	-				
4900	-	-	-				1.5	1.3	-			1.1	1.0	-	-	-	-	-	-	-	-	-				
3500	-	-	-				0.7	0.6	-			0.7	0.6	-	-	-	-	-	-	-	-	-				
7500	-	-	-				3.7	3.3	-			2.7	2.5	-	-	-	-	-	-	-	-	-				
5250	-	-	-				1.9	1.7	-			1.3	1.1	-	-	-	-	-	-	-	-	-				
3750	-	-	-				1.1	1	-			0.9	0.8	-	-	-	-	-	-	-	-	-				

Table 13.2.4.1(c) Friction and Entrance Loss in 6 m of Suction Hose, Including Strainer (SI units)

Number of Suction Hose and Size (inside diameter)																											
Flow Rate (<u>L</u> / min)	<u>One</u> <u>75 mm</u>			:			<u>One</u> <u>100 mm</u>			:			<u>One</u> <u>110 mm</u>			:			<u>One</u> <u>125 mm</u>			:			<u>One</u> <u>150 m</u>		
	<u>m</u> <u>water</u>	<u>kPa</u>	:	<u>m</u> <u>water</u>	<u>kPa</u>	:	<u>m</u> <u>water</u>	<u>kPa</u>	:	<u>m</u> <u>water</u>	<u>kPa</u>	:	<u>m</u> <u>water</u>	<u>kPa</u>	:	<u>m</u> <u>water</u>	<u>kPa</u>	:	<u>m</u> <u>water</u>	<u>kPa</u>	:	<u>m</u> <u>water</u>	<u>kPa</u>	:			
1,000	1.6	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
700	0.8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
500	0.4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1,100	2.2	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
770	1.1	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
550	0.6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1,300	-	-	-	-	-	-	0.7	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
910	-	-	-	-	-	-	0.4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
650	-	-	-	-	-	-	0.2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2,000	-	-	-	-	-	-	1.5	15	-	-	1.1	11	-	-	-	-	-	-	-	-	-	-	-	-	-		

Number of Suction Hose and Size (inside diameter)																
Flow Rate (L/ min)	One 75 mm			One 100 mm			One 110 mm			One 125 mm			One 150 m			
	m water	kPa		m water	kPa		m water	kPa		m water	kPa		m water	kPa		
1,400	-	-	-		0.7	7	-	0.5	5	-	-	-	-	-	-	
1,000	-	-	-		0.4	4	-	0.3	3	-	-	-	-	-	-	
3,000	-	-	-		3.5	33	-	2.4	24	-	1.4	14	-	0.6	6	
2,100	-	-	-		1.7	17	-	1.2	11	-	0.7	7	-	0.3	3	
1,500	-	-	-		0.9	8	-	0.6	6	-	0.4	4	-	0.2	2	
4,000	-	-	-	-	-					4.4	42	-	2.6	25	1.0 10	
2,800	-	-	-	-	-					2.1	21	-	1.2	13	0.5 5	
2,000	-	-	-	-	-					1.1	11	-	0.6	6	0.3 3	
Flow Rate (L/ min)	One 125 mm			One 150 mm			Two 110 mm			Two 125 mm			Two 150 mm			
	m water	kPa		m water	kPa		m water	kPa		m water	kPa		m water	kPa		
5,000	4.0	39	-	1.6	16	-	1.7	17	-	-	-	-	-	-	-	
3,500	2.0	19	-	0.8	8	-	0.9	8	-	-	-	-	-	-	-	
2,500	1.0	10	-	0.4	4	-	0.4	4	-	-	-	-	-	-	-	
6,000	-	-	-			2.3 23	-	2.4	24	-	1.4	14	-	0.6	6	
4,200	-	-	-			1.1 11	-	1.2	12	-	0.7	7	-	0.3	3	
3,000	-	-	-			0.6 6	-	0.6	6	-	0.4	4	-	0.2	2	
7,000	-	-	-			3.2 31	-	3.6	33	-	2.0	19	-	0.8	8	
4,900	-	-	-			1.5 16	-	1.6	16	-	0.9	9	-	0.4	4	
3,500	-	-	-			0.8 8	-	0.9	8	-	0.5	5	-	0.2	2	
8,000	-	-	-	-	-					4.4	42	-	2.6	25	1.0 10	
5,600	-	-	-	-	-					2.1	21	-	1.2	13	0.5 5	
4,000	-	-	-	-	-					1.1	11	-	0.6	6	0.3 3	
9,000	-	-	-	-	-	-	-							3.3 32	1.3 13	
6,300	-	-	-	-	-	-	-							1.6 16	0.7 6	
4,500	-	-	-	-	-	-	-							0.9 8	0.3 3	
10,000	-	-	-	-	-	-	-							4.0 39	1.6 16	
7,000	-	-	-	-	-	-	-							2.0 19	0.8 8	
5,000	-	-	-	-	-	-	-							1.0 10	0.4 4	
Flow Rate (L/ min)	Two 150 mm			Three 150 mm			Four 150 mm			One 200 mm			Two 200 mm			
	m water	kPa		m water	kPa		m water	kPa		m water	kPa		m water	kPa		
8,000	1.0	10	-	-	-	-	-						1.3	13	-	
5,600	0.5	5	-	-	-	-	-						0.6	6	-	
4,000	0.3	3	-	-	-	-	-						0.3	3	-	
9,000	1.3	13	-	0.6	6	-	-	-	-	1.7	17	-	0.4	4	-	
6,300	0.7	6	-	0.3	3	-	-	-	-	0.7	7	-	0.2	2	-	
4,500	0.3	3	-	0.2	2	-	-	-	-	0.4	4	-	0.1	1	-	
10,000	1.6	16	-	0.7	7	-	-	-	-	2.1	21	-	0.5	4	-	
7,000	0.8	8	-	0.4	4	-	-	-	-	1.0	9	-	0.2	2	-	
5,000	0.4	4	-	0.2	2	-	-	-	-	0.5	4	-	0.1	1	-	
12,000	2.3	23	-	1.09	10.1	-	-	-	-	-	-	-		0.7	7	
8,400	1.1	12	-	0.52	5.1	-	-	-	-	-	-	-		0.3	3	
6,000	0.58	5.7	-	0.27	2.71	-	-	-	-	-	-	-		0.18	1.69	
14,000	-	-	-			1.42 13.9	-	0.8	8	-	-	-	-	1.0	9	
9,800	-	-	-			0.88 8.6	-	0.4	4	-	-	-	-	0.5	4	
7,000	-	-	-			0.36 3.56	-	-	-				0.21 2.03	-	.021 2.03	
16,000	-	-	-			1.5 15	-	1.0	10	-	-	-	-	1.3	13	
11,200	-	-	-			0.9 8	-	0.5	5	-	-	-	-	0.6	6	
8,000	-	-	-	-	-					0.27 2.71	-	-	-	-	0.31 3.05	
Flow Rate	Six 150 mm			Three 200 mm			Four 200 mm			Two 300 mm						
	m	water	kPa	m	water	kPa	m	water	kPa	m	water	kPa	m	water	kPa	

Number of Suction Hose and Size (inside diameter)													
Flow Rate (L/ min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm				
	m water kPa		m water kPa		m water kPa		m water kPa		m water kPa				
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	-	-	-
18,000	0.64	6.43	0.7	6.77	-	-	-	-	-	-	-	-	-
12,600	0.33	3.38	0.37	3.38	-	-	-	-	-	-	-	-	-
9,000	0.17	1.52	0.18	1.69	-	-	-	-	-	-	-	-	-
20,000	0.7	6.77	0.76	7.45	-	-	-	-	-	-	-	-	-
14,000	0.37	3.72	0.46	4.4	-	-	-	-	-	-	-	-	-
10,000	0.18	1.69	0.21	2.03	-	-	-	-	-	-	-	-	-
22,000	0.76	7.45	-	-	-	-	0.64	6.43	-	0.58	5.76	-	-
15,400	0.43	4.06	-	-	-	-	0.27	2.71	-	0.24	2.37	-	-
11,000	0.21	2.03	-	-	-	-	0.15	1.35	-	0.15	1.22	-	-
24,000	1.04	10.16	-	-	-	-	0.7	7.11	-	0.64	6.43	-	-
16,800	0.61	5.76	-	-	-	-	0.31	3.05	-	0.27	2.71	-	-
12,000	0.51	5.08	-	-	-	-	0.18	1.69	-	0.15	1.35	-	-
Flow Rate (L/ min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm						
	m water kPa		m water kPa		m water kPa		m water kPa						
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	-	-	-	-	-
26,000	-	-	-	0.76	-	-	7.45	-	-	0.7	7.11	-	-
18,200	-	-	-	0.33	-	-	3.38	-	-	0.33	3.05	-	-
13,000	-	-	-	0.21	-	-	2.03	-	-	0.18	1.69	-	-
28,000	-	-	-	1.0	-	-	9.82	-	-	0.76	7.45	-	-
19,600	-	-	-	0.46	-	-	4.4	-	-	0.33	3.38	-	-
14,000	-	-	-	0.21	-	-	2.03	-	-	0.21	2.03	-	-
30,000	-	-	-	1.13	-	-	11.17	-	-	0.82	8.47	-	-
21,000	-	-	-	0.58	-	-	5.76	-	-	0.4	3.72	-	-
15,000	-	-	-	0.33	-	-	3.38	-	-	0.27	2.71	-	-

Statement of Problem and Substantiation for Public Input

The data and formatting of these tables got corrupted in the 2024 edition. TerraView does not render tables well. Gary Handwerk is also working on correcting these tables.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 14:01:17 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-423-NFPA 1900-2026

Statement: Rate all fire pumps at 150 psi, consistent across all flows and consistent with international pump ratings. The lower pressure ratings for larger pumps was based on the expectation/fear that the 2010 engines would not be able to match the horsepower of earlier engines. This expectation did not materialize, and larger engines continue to be available. Making this change would not only make US fire pump ratings consistent with foreign ratings of the same pumps, but they would be consistent across sizes. With all centrifugal fire pumps, lower pressure gives larger flow at the same drive speed. Under the current stepped rating system, a 2500 gpm at 150 psi pump(1750 at 200 psi, 1250 at 250 psi) is almost identical in performance to a 3500 gpm 100 psi (2450 gpm at 150 psi, 1750 gpm at 200 psi). Is this a 2500 gpm pump or a 3500 gpm pump? Likewise a 2750 gpm pump could be called a 4000 gpm pump. A 3000 gpm pump is really only a relabeled 2100 gpm pump. This would make no difference in what a specific configuration of engine and pump could produce, just what it could be called in ratings and advertising. It would be a more honest and consistent definition. Since industrial pumps seldom require 250 psi output (it is too high for large diameter hose capable of moving the water anyway), skip the 250 psi rating on 3000+ gpm pumps.

The ULC-515 Task Group noted that the conversions from US Gallons to Liters throughout the standard is not accurate. This public input is intended as a place holder for the NFPA 1900 committee to reconsider the practice of rounding off the values in liters.



Public Input No. 455-NFPA 1900-2025 [Section No. 13.2.4.1]

13.2.4.1*

The pump manufacturer shall certify that the fire pump is capable of pumping 100 percent of rated capacity at 150 psi (1000 kPa) net pump pressure for pumps rated at less than 3000 gpm (12,000 L/min) or at 100 psi (700 kPa) for pumps rated at 3000 gpm (12,000 L/min) or greater from draft through 20 ft (6 m) of suction hose with a strainer attached under the following conditions:

- (1) An altitude of 2000 ft (600 m) above sea level
- (2) Atmospheric pressure of 29.9 in. Hg (101 kPa) (corrected to sea level)
- (3) Water temperature of 60°F (15.6°C)
- (4) Suction hose size and number of hose not to exceed those indicated in Table 13.2.4.1(a)
- (5) Lift as indicated in Table 13.2.4.1(a)
- (6) Friction and entrance loss in suction hose, including strainer, as given in Table 13.2.4.1(b) or Table 13.2.4.1(c)

Table 13.2.4.1(a) Suction Hose Size, Number of Suction Lines, and Lift for Pump Manufacturer's Suction Capability Certification

<u>Rated Capacity</u>		<u>Suction Hose Size</u>				<u>Number of Suction Lines</u>	<u>Lift</u>	
<u>gpm</u>	<u>L/min</u>		<u>in.</u>	<u>mm</u>			<u>ft</u>	<u>m</u>
250	1,000	-	3	75	-	1	10	3
300	1,100	-	3	75	-	1	10	3
350	1,300	-	4	100	-	1	10	3
500	2,000	-	4½	110	-	1	10	3
750	3,000	-	4½	110	-	1	10	3
1,000	4,000	-	6	150	-	1	10	3
1,250	5,000	-	6	150	-	1	10	3
1,500	6,000	-	6	150	-	2	10	3
1,750	7,000	-	6	150	-	2	8	2.4
2,000	8,000	-	6	150	-	2	6	1.8
2,000	8,000	-	8	200	-	1	6	1.8
2,250	9,000	-	6	150	-	3	6	1.8
2,250	9,000	-	8	200	-	1	6	1.8
2,500	10,000	-	6	150	-	3	6	1.8
2,500	10,000	-	8	200	-	1	6	1.8
3,000	12,000	-	6	150	-	3	6	1.8
3,000	12,000	-	8	200	-	2	6	1.8
3,500	14,000	-	6	150	-	4	6	1.8
3,500	14,000	-	8	200	-	2	6	1.8
4,000	16,000	-	6	150	-	4	6	1.8
4,000	16,000	-	8	200	-	2	6	1.8
4,500	18,000	-	6	150	-	6	6	1.8
4,500	18,000	-	8	200	-	3	6	1.8
5,000	20,000	-	6	150	-	6	6	1.8
5,000	20,000	-	8	200	-	3	6	1.8
5,500	22,000	-	6	150	-	6	6	1.8
5,500	22,000	-	8	200	-	4	6	1.8
5,500	22,000	-	12	300	-	2	6	1.8
6,000	24,000	-	6	150	-	6	6	1.8
6,000	24,000	-	8	200	-	4	6	1.8
6,000	24,000	-	12	300	-	2	6	1.8
6,500	26,000	-	8	200	-	4	6	1.8
6,500	26,000	-	12	300	-	2	6	1.8
7,000	28,000	-	8	200	-	4	6	1.8
7,000	28,000	-	12	300	-	2	6	1.8
7,500	30,000	-	8	200	-	4	6	1.8
7,500	30,000	-	12	300	-	2	6	1.8

Table 13.2.4.1(b) Friction and Entrance Loss in 20 ft of Suction Hose, Including Strainer (United States customary system [USCS] units)

<u>Flow Rate</u> <u>(gpm)</u>	<u>Number of Suction Hose and Size (inside diameter)</u>									
	<u>One 3 in.</u>		<u>One 4 in.</u>		<u>One 4½ in.</u>		<u>One 5 in.</u>		<u>One 6 in.</u>	
	<u>ft</u> <u>water</u>	<u>in.</u> <u>Hg</u>	<u>ft</u> <u>water</u>	<u>in.</u> <u>Hg</u>	<u>ft</u> <u>water</u>	<u>in.</u> <u>Hg</u>	<u>ft</u> <u>water</u>	<u>in.</u> <u>Hg</u>	<u>ft</u> <u>water</u>	<u>in.</u> <u>Hg</u>
250	5.2	4.6	-	-	-	-	-	-	-	-
175	2.6	2.3	-	-	-	-	-	-	-	-

Number of Suction Hose and Size (inside diameter)												
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.			
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg		
125	1.4	1.2	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
300	7.5	6.6	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
210	3.8	3.4	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
150	1.9	1.7	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		
350	-	-	-	-	2.5	2.1	-	-	-	-	-	-
245	-	-	-	-	1.2	1.1	-	-	-	-	-	-
175	-	-	-	-	0.7	0.6	-	-	-	-	-	-
500	-	-	-	-	5.0	4.4	-	3.6	3.2	-	-	-
350	-	-	-	-	2.5	2.1	-	1.8	1.6	-	-	-
250	-	-	-	-	1.3	1.1	-	0.9	0.8	-	-	-
750	-	-	-	-	11.4	9.8	-	8.0	7.1	-	4.7	4.2
525	-	-	-	-	5.5	4.9	-	3.9	3.4	-	2.3	2.0
375	-	-	-	-	2.8	2.5	-	2.0	1.8	-	1.2	1.1
1000	-	-	- - -	-	-	-	-	14.5	12.5	-	8.4	7.4
700	-	-	- - -	-	-	-	-	7.0	6.2	-	4.1	3.7
500	-	-	- - -	-	-	-	-	3.6	3.2	-	2.1	1.9
Flow Rate (gpm)	One 5 in.		One 6 in.		Two 4½ in.		Two 5 in.		Two 6 in.			
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg		
1250	13.0	11.5	-	5.2	4.7	-	5.5	4.9	-	-	-	-
875	6.5	5.7	-	2.6	2.3	-	2.8	2.5	-	-	-	-
625	3.3	2.9	-	1.3	1.1	-	1.4	1.2	-	-	-	-
1500	-	-	-	-	7.6	6.7	-	8.0	7.1	-	4.7	4.2
1050	-	-	-	-	3.7	3.3	-	3.9	3.4	-	2.3	2.0
750	-	-	-	-	1.9	1.7	-	2.0	1.8	-	1.2	1.1
1750	-	-	-	-	10.4	9.3	-	11.0	9.7	-	6.5	5.7
1225	-	-	-	-	5.0	4.6	-	5.3	4.7	-	3.1	2.7
875	-	-	-	-	2.6	2.3	-	2.8	2.5	-	1.6	1.4
2000	-	-	- - -	-	-	-	-	14.5	12.5	-	8.4	7.4
1400	-	-	- - -	-	-	-	-	7.0	6.2	-	4.1	3.7
1000	-	-	- - -	-	-	-	-	3.6	3.2	-	2.1	1.9
2250	-	-	- - -	-	-	-	-	-	-	-	10.8	9.5
1575	-	-	- - -	-	-	-	-	-	-	-	5.3	4.7
1125	-	-	- - -	-	-	-	-	-	-	-	2.8	2.5
2500	-	-	- - -	-	-	-	-	-	-	-	13.0	11.5
1750	-	-	- - -	-	-	-	-	-	-	-	6.5	5.7
1250	-	-	- - -	-	-	-	-	-	-	-	3.3	2.9
Flow Rate (gpm)	Two 6 in.		Three 6 in.		Four 6 in.		One 8 in.		Two 8 in.			
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg		
2000	3.4	3.0	- - -	- - -	- - -	- - -	-	-	4.3	3.8	- - -	-
1400	1.7	1.5	- - -	- - -	- - -	- - -	-	-	2.0	1.8	- - -	-
1000	0.9	0.8	- - -	- - -	- - -	- - -	-	-	1.0	0.9	- - -	-
2250	4.3	3.8	-	2.0	1.8	- - -	-	-	5.6	5.0	-	1.2
1575	2.2	1.9	-	1.0	0.9	- - -	-	-	2.5	2.2	-	0.6
1125	1.1	1.0	-	0.5	0.5	- - -	-	-	1.2	1.1	-	0.3
2500	5.2	4.7	-	2.3	2.0	- - -	-	-	7.0	6.2	-	1.5
1750	2.6	2.3	-	1.2	1.1	- - -	-	-	3.2	2.8	-	0.8
1250	1.3	1.1	-	0.6	0.5	- - -	-	-	1.5	1.3	-	0.4
3000	7.6	6.9	-	3.4	3.0	- - -	-	-	-	-	-	2.3
2100	3.7	3.4	-	1.7	1.5	- - -	-	-	-	-	-	1.0
1500	1.9	1.7	-	0.9	0.8	- - -	-	-	-	-	-	0.6
3500	4.7	4.3	-	2.6	2.3	- - -	-	-	3.2	2.8	-	-
2450	2.9	2.6	-	1.2	1.1	- - -	-	-	1.5	1.3	-	-
1750	1.2	1.1	-	0.7	0.6	- - -	-	-	0.7	0.6	-	-

Number of Suction Hose and Size (inside diameter)													
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.				
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	
4000	-	-	-	-	3.4	3.0	-	-	-	-	4.3	3.8	- - -
2800	-	-	-	-	1.7	1.5	-	-	-	-	2.0	1.8	- - -
2000	-	-	-	-	0.9	0.8	-	-	-	-	1.0	0.9	- - -
4500	-	-	-	-	-	-	2.1	1.9	-	-	-	-	2.3 2.0
3150	-	-	-	-	-	-	1.1	1.0	-	-	-	-	1.2 1.0
2250	-	-	-	-	-	-	0.55	0.45	-	-	-	-	0.6 0.5
5000	-	-	-	-	-	-	2.3	2.0	-	-	-	-	2.5 2.2
3500	-	-	-	-	-	-	1.2	1.1	-	-	-	-	1.5 1.3
2500	-	-	-	-	-	-	0.6	0.5	-	-	-	-	0.7 0.6
Flow Rate (gpm)	Six 6 in.		Four 8 in.		Two 12 in.								
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water
5500	2.5	2.2	2.1	1.9	1.9	1.7	-	-	-	-	-	-	-
3850	1.4	1.2	0.9	0.8	0.8	0.7	-	-	-	-	-	-	-
2750	0.7	0.6	0.5	0.4	0.46	0.36	-	-	-	-	-	-	-
6000	3.4	3.0	2.3	2.1	2.1	1.9	-	-	-	-	-	-	-
4200	2.0	1.7	1.0	0.9	0.9	0.8	-	-	-	-	-	-	-
3000	1.7	1.5	0.6	0.5	0.5	0.4	-	-	-	-	-	-	-
6500	-	-	-	-	2.5	2.2	-	2.3	2.1	-	-	-	-
4550	-	-	-	-	1.1	1.0	-	1.0	0.9	-	-	-	-
3250	-	-	-	-	0.7	0.6	-	0.6	0.5	-	-	-	-
7000	-	-	-	-	3.3	2.9	-	2.5	2.2	-	-	-	-
4900	-	-	-	-	1.5	1.3	-	1.1	1.0	-	-	-	-
3500	-	-	-	-	0.7	0.6	-	0.7	0.6	-	-	-	-
7500	-	-	-	-	3.7	3.3	-	2.7	2.5	-	-	-	-
5250	-	-	-	-	1.9	1.7	-	1.3	1.1	-	-	-	-
3750	-	-	-	-	1.1	1	-	0.9	0.8	-	-	-	-

Table 13.2.4.1(c) Friction and Entrance Loss in 6 m of Suction Hose, Including Strainer (SI units)

Number of Suction Hose and Size (inside diameter)													
Flow Rate (L/min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm				
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	
1,000	1.6	16	-	-	-	-	-	-	-	-	-	-	-
700	0.8	8	-	-	-	-	-	-	-	-	-	-	-
500	0.4	4	-	-	-	-	-	-	-	-	-	-	-
1,100	2.2	22	-	-	-	-	-	-	-	-	-	-	-
770	1.1	12	-	-	-	-	-	-	-	-	-	-	-
550	0.6	6	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,300	-	-	-	-	0.7	7	-	-	-	-	-	-	-
910	-	-	-	-	0.4	4	-	-	-	-	-	-	-
650	-	-	-	-	0.2	2	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,000	-	-	-	-	1.5	15	-	1.1	11	-	-	-	-
1,400	-	-	-	-	0.7	7	-	0.5	5	-	-	-	-
1,000	-	-	-	-	0.4	4	-	0.3	3	-	-	-	-
3,000	-	-	-	-	3.5	33	-	2.4	24	-	1.4	14	-
2,100	-	-	-	-	1.7	17	-	1.2	11	-	0.7	7	-
1,500	-	-	-	-	0.9	8	-	0.6	6	-	0.4	4	-
4,000	-	-	-	-	-	-	-	4.4	42	-	2.6	25	-
2,800	-	-	-	-	-	-	-	2.1	21	-	1.2	13	-
2,000	-	-	-	-	-	-	-	1.1	11	-	0.6	6	-

Number of Suction Hose and Size (inside diameter)														
Flow Rate (L/min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm					
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa				
Flow Rate (L/min)	One 125 mm		One 150 mm		Two 110 mm		Two 125 mm		Two 150 mm					
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa				
5,000	4.0	39	1.6	16	1.7	17	-	-	-	-				
3,500	2.0	19	0.8	8	0.9	8	-	-	-	-				
2,500	1.0	10	0.4	4	0.4	4	-	-	-	-				
6,000	-	-	-	-	2.3	23	-	2.4	24	-	1.4	14	-	0.6 6
4,200	-	-	-	-	1.1	11	-	1.2	12	-	0.7	7	-	0.3 3
3,000	-	-	-	-	0.6	6	-	0.6	6	-	0.4	4	-	0.2 2
7,000	-	-	-	-	3.2	31	-	3.6	33	-	2.0	19	-	0.8 8
4,900	-	-	-	-	1.5	16	-	1.6	16	-	0.9	9	-	0.4 4
3,500	-	-	-	-	0.8	8	-	0.9	8	-	0.5	5	-	0.2 2
8,000	-	-	-	-	-	-	-	4.4	42	-	2.6	25	-	1.0 10
5,600	-	-	-	-	-	-	-	2.1	21	-	1.2	13	-	0.5 5
4,000	-	-	-	-	-	-	-	1.1	11	-	0.6	6	-	0.3 3
9,000	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3 32 - 1.3 13
6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6 16 - 0.7 6
4,500	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9 8 - 0.3 3
10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0 39 - 1.6 16
7,000	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0 19 - 0.8 8
5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0 10 - 0.4 4
Flow Rate (L/min)	Two 150 mm		Three 150 mm		Four 150 mm		One 200 mm		Two 200 mm					
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa				
8,000	1.0	10	-	-	-	-	-	-	-	-	1.3	13	-	-
5,600	0.5	5	-	-	-	-	-	-	-	-	0.6	6	-	-
4,000	0.3	3	-	-	-	-	-	-	-	-	0.3	3	-	-
9,000	1.3	13	-	0.6	6	-	-	-	1.7	17	-	-	0.4	4
6,300	0.7	6	-	0.3	3	-	-	-	0.7	7	-	-	0.2	2
4,500	0.3	3	-	0.2	2	-	-	-	0.4	4	-	-	0.1	1
10,000	1.6	16	-	0.7	7	-	-	-	2.1	21	-	-	0.5	4
7,000	0.8	8	-	0.4	4	-	-	-	1.0	9	-	-	0.2	2
5,000	0.4	4	-	0.2	2	-	-	-	0.5	4	-	-	0.1	1
12,000	2.3	23	-	1.09	10.1	-	-	-	-	-	-	-	0.7	7
8,400	1.1	12	-	0.52	5.1	-	-	-	-	-	-	-	0.3	3
6,000	0.58	5.7	-	0.27	2.71	-	-	-	-	-	-	-	0.18	1.69
14,000	-	-	-	-	1.42	13.9	-	0.8	8	-	-	-	1.0	9
9,800	-	-	-	-	0.88	8.6	-	0.4	4	-	-	-	0.5	4
7,000	-	-	-	-	0.36	3.56	-	-	-	-	0.21	2.03	-	0.21 2.03
16,000	-	-	-	-	1.5	15	-	1.0	10	-	-	-	1.3	13
11,200	-	-	-	-	0.9	8	-	0.5	5	-	-	-	0.6	6
8,000	-	-	-	-	-	-	-	0.27	2.71	-	-	-	-	0.31 3.05
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm							
	m water	kPa	m water	kPa	m water	kPa	m water	kPa						
18,000	0.64	6.43	-	0.7	6.77	-	-	-	-	-	-	-	-	-
12,600	0.33	3.38	-	0.37	3.38	-	-	-	-	-	-	-	-	-
9,000	0.17	1.52	-	0.18	1.69	-	-	-	-	-	-	-	-	-
20,000	0.7	6.77	-	0.76	7.45	-	-	-	-	-	-	-	-	-
14,000	0.37	3.72	-	0.46	4.4	-	-	-	-	-	-	-	-	-
10,000	0.18	1.69	-	0.21	2.03	-	-	-	-	-	-	-	-	-
22,000	0.76	7.45	-	-	-	-	0.64	6.43	-	0.58	5.76	-	-	-

Number of Suction Hose and Size (inside diameter)												
Flow Rate	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm			
(L/min)	m	kPa	m	kPa	m	kPa	m	kPa	m	kPa	m	kPa
15,400	0.43	4.06	-	-	-	-	0.27	2.71	-	0.24	2.37	-
11,000	0.21	2.03	-	-	-	-	0.15	1.35	-	0.15	1.22	-
24,000	1.04	10.16	-	-	-	-	0.7	7.11	-	0.64	6.43	-
16,800	0.61	5.76	-	-	-	-	0.31	3.05	-	0.27	2.71	-
12,000	0.51	5.08	-	-	-	-	0.18	1.69	-	0.15	1.35	-
Flow Rate	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm					
(L/min)	m	kPa	m	kPa	m	kPa	m	kPa	-	-	-	-
26,000	-	-	-	0.76	-	-	7.45	-	-	0.7	7.11	-
18,200	-	-	-	0.33	-	-	3.38	-	-	0.33	3.05	-
13,000	-	-	-	0.21	-	-	2.03	-	-	0.18	1.69	-
28,000	-	-	-	1.0	-	-	9.82	-	-	0.76	7.45	-
19,600	-	-	-	0.46	-	-	4.4	-	-	0.33	3.38	-
14,000	-	-	-	0.21	-	-	2.03	-	-	0.21	2.03	-
30,000	-	-	-	1.13	-	-	11.17	-	-	0.82	8.47	-
21,000	-	-	-	0.58	-	-	5.76	-	-	0.4	3.72	-
15,000	-	-	-	0.33	-	-	3.38	-	-	0.27	2.71	-

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.
Table 13.2.4.1(c) is in error. "One 150m" should be "One 150mm".

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 16:37:29 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-423-NFPA 1900-2026](#)

Statement: Rate all fire pumps at 150 psi, consistent across all flows and consistent with international pump ratings. The lower pressure ratings for larger pumps was based on the expectation/fear that the 2010 engines would not be able to match the horsepower of earlier engines. This expectation did not materialize, and larger engines continue to be available. Making this change would not only make US fire pump ratings consistent with foreign ratings of the same pumps, but they would be consistent across sizes. With all centrifugal fire pumps, lower pressure gives larger flow at the same drive speed. Under the current stepped rating system, a 2500 gpm at 150 psi pump(1750 at 200 psi, 1250 at 250 psi) is almost identical in performance to a 3500 gpm 100 psi (2450 gpm at 150 psi, 1750 gpm at 200 psi). Is this a 2500 gpm pump or a 3500 gpm pump? Likewise a 2750 gpm pump could be called a 4000 gpm pump. A 3000 gpm pump is really only a relabeled 2100 gpm pump. This would make no difference in what a specific configuration of engine and pump could produce, just what it could be called in ratings and advertising. It would be a more honest and consistent definition. Since industrial pumps seldom require 250 psi output (it is too high for large diameter hose capable of moving the water anyway), skip the 250 psi rating on 3000+ gpm pumps.

The ULC-515 Task Group noted that the conversions from US Gallons to Liters throughout the standard is not accurate. This public input is intended as a place holder for the NFPA 1900 committee to reconsider the practice of rounding off the values in liters.



Public Input No. 456-NFPA 1900-2025 [Section No. 13.2.4.1]

13.2.4.1*

The pump manufacturer shall certify that the fire pump is capable of pumping 100 percent of rated capacity at 150 psi (1000 kPa) net pump pressure for pumps rated at less than 3000 gpm (12,000 L/min) or at 100 psi (700 kPa) for pumps rated at 3000 gpm (12,000 L/min) or greater from draft through 20 ft (6 m) of suction hose with a strainer attached under the following conditions:

- (1) An altitude of 2000 ft (600 m) above sea level
- (2) Atmospheric pressure of 29.9 in. Hg (101 kPa) (corrected to sea level)
- (3) Water temperature of 60°F (15.6°C)
- (4) Suction hose size and number of hose not to exceed those indicated in Table 13.2.4.1(a)
- (5) Lift as indicated in Table 13.2.4.1(a)
- (6) Friction and entrance loss in suction hose, including strainer, as given in Table 13.2.4.1(b) or Table 13.2.4.1(c)

Table 13.2.4.1(a) Suction Hose Size, Number of Suction Lines, and Lift for Pump Manufacturer's Suction Capability Certification

<u>Rated Capacity</u>		<u>Suction Hose Size</u>		<u>Number of Suction Lines</u>	<u>Lift</u>	
<u>gpm</u>	<u>L/min</u>	<u>in.</u>	<u>mm</u>		<u>ft</u>	<u>m</u>
250	1,000	3	75	1	10	3
300	1,100	3	75	1	10	3
350	1,300	4	100	1	10	3
500	2,000	4½	110	1	10	3
750	3,000	4½	110	1	10	3
1,000	4,000	6	150	1	10	3
1,250	5,000	6	150	1	10	3
1,500	6,000	6	150	2	10	3
1,750	7,000	6	150	2	8	2.4
2,000	8,000	6	150	2	6	1.8
2,000	8,000	8	200	1	6	1.8
2,250	9,000	6	150	3	6	1.8
2,250	9,000	8	200	1	6	1.8
2,500	10,000	6	150	3	6	1.8
2,500	10,000	8	200	1	6	1.8
3,000	12,000	6	150	3	6	1.8
3,000	12,000	8	200	2	6	1.8
3,500	14,000	6	150	4	6	1.8
3,500	14,000	8	200	2	6	1.8
4,000	16,000	6	150	4	6	1.8
4,000	16,000	8	200	2	6	1.8
4,500	18,000	6	150	6	6	1.8
4,500	18,000	8	200	3	6	1.8
5,000	20,000	6	150	6	6	1.8
5,000	20,000	8	200	3	6	1.8
5,500	22,000	6	150	6	6	1.8
5,500	22,000	8	200	4	6	1.8
5,500	22,000	12	300	2	6	1.8
6,000	24,000	6	150	6	6	1.8
6,000	24,000	8	200	4	6	1.8
6,000	24,000	12	300	2	6	1.8
6,500	26,000	8	200	4	6	1.8
6,500	26,000	12	300	2	6	1.8
7,000	28,000	8	200	4	6	1.8
7,000	28,000	12	300	2	6	1.8
7,500	30,000	8	200	4	6	1.8
7,500	30,000	12	300	2	6	1.8

Table 13.2.4.1(b) Friction and Entrance Loss in 20 ft of Suction Hose, Including Strainer (United States customary system [USCS] units)

-	Number of Suction Hose and Size (inside diameter)									
	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
Flow Rate (gpm)										
250	5.2	4.6								
175	2.6	2.3								
125	1.4	1.2								

Number of Suction Hose and Size (inside diameter)										
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
300	7.5	6.6								
210	3.8	3.4								
150	1.9	1.7								
350			2.5	2.1						
245			1.2	1.1						
175			0.7	0.6						
500			5.0	4.4	3.6	3.2				
350			2.5	2.1	1.8	1.6				
250			1.3	1.1	0.9	0.8				
750			11.4	9.8	8.0	7.1	4.7	4.2	1.9	1.7
525			5.5	4.9	3.9	3.4	2.3	2.0	0.9	0.8
375			2.8	2.5	2.0	1.8	1.2	1.1	0.5	0.5
1000					14.5	12.5	8.4	7.4	3.4	3.0
700					7.0	6.2	4.1	3.7	1.7	1.5
500					3.6	3.2	2.1	1.9	0.9	0.8
Flow Rate (gpm)	One 5 in.		One 6 in.		Two 4½ in.		Two 5 in.		Two 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
1250	13.0	11.5	5.2	4.7	5.5	4.9				
875	6.5	5.7	2.6	2.3	2.8	2.5				
625	3.3	2.9	1.3	1.1	1.4	1.2				
1500			7.6	6.7	8.0	7.1	4.7	4.2	1.9	1.7
1050			3.7	3.3	3.9	3.4	2.3	2.0	0.9	0.8
750			1.9	1.7	2.0	1.8	1.2	1.1	0.5	0.5
1750			10.4	9.3	11.0	9.7	6.5	5.7	2.6	2.3
1225			5.0	4.6	5.3	4.7	3.1	2.7	1.2	1.1
875			2.6	2.3	2.8	2.5	1.6	1.4	0.7	0.6
2000					14.5	12.5	8.4	7.4	3.4	3.0
1400					7.0	6.2	4.1	3.7	1.7	1.5
1000					3.6	3.2	2.1	1.9	0.9	0.8
2250							10.8	9.5	4.3	3.8
1575							5.3	4.7	2.2	1.9
1125							2.8	2.5	1.1	1.0
2500							13.0	11.5	5.2	4.7
1750							6.5	5.7	2.6	2.3
1250							3.3	2.9	1.3	1.1
Flow Rate (gpm)	Two 6 in.		Three 6 in.		Four 6 in.		One 8 in.		Two 8 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
2000	3.4	3.0					4.3	3.8		
1400	1.7	1.5					2.0	1.8		
1000	0.9	0.8					1.0	0.9		
2250	4.3	3.8	2.0	1.8			5.6	5.0	1.2	1.1
1575	2.2	1.9	1.0	0.9			2.5	2.2	0.6	0.5
1125	1.1	1.0	0.5	0.5			1.2	1.1	0.3	0.3
2500	5.2	4.7	2.3	2.0			7.0	6.2	1.5	1.3
1750	2.6	2.3	1.2	1.1			3.2	2.8	0.8	0.7
1250	1.3	1.1	0.6	0.5			1.5	1.3	0.4	0.4
3000	7.6	6.9	3.4	3.0					2.3	2.1
2100	3.7	3.4	1.7	1.5					1.0	0.9
1500	1.9	1.7	0.9	0.8					0.6	0.5
3500	4.7	4.3	2.6	2.3			3.2	2.8		
2450	2.9	2.6	1.2	1.1			1.5	1.3		
1750	1.2	1.1	0.7	0.6			0.7	0.6		
4000			3.4	3.0			4.3	3.8		
2800			1.7	1.5			2.0	1.8		
2000			0.9	0.8			1.0	0.9		

Number of Suction Hose and Size (inside diameter)										
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
4500					2.1	1.9			2.3	2.0
3150					1.1	1.0			1.2	1.0
2250					0.55	0.45			0.6	0.5
5000					2.3	2.0			2.5	2.2
3500					1.2	1.1			1.5	1.3
2500					0.6	0.5			0.7	0.6
Flow Rate (gpm)	Six 6 in.		Four 8 in.		Two 12 in.					
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg				
5500	2.5	2.2	2.1	1.9	1.9	1.7				
3850	1.4	1.2	0.9	0.8	0.8	0.7				
2750	0.7	0.6	0.5	0.4	0.46	0.36				
6000	3.4	3.0	2.3	2.1	2.1	1.9				
4200	2.0	1.7	1.0	0.9	0.9	0.8				
3000	1.7	1.5	0.6	0.5	0.5	0.4				
6500			2.5	2.2	2.3	2.1				
4550			1.1	1.0	1.0	0.9				
3250			0.7	0.6	0.6	0.5				
7000			3.3	2.9	2.5	2.2				
4900			1.5	1.3	1.1	1.0				
3500			0.7	0.6	0.7	0.6				
7500			3.7	3.3	2.7	2.5				
5250			1.9	1.7	1.3	1.1				
3750			1.1	1	0.9	0.8				

Table 13.2.4.1(c) Friction and Entrance Loss in 6 m of Suction Hose, Including Strainer (SI units)

Number of Suction Hose and Size (inside diameter)											
Flow Rate (L/min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm		
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	
1,000	1.6	16									
700	0.8	8									
500	0.4	4									
1,100	2.2	22									
770	1.1	12									
550	0.6	6									
1,300			0.7	7							
910			0.4	4							
650			0.2	2							
2,000			1.5	15	1.1	11					
1,400			0.7	7	0.5	5					
1,000			0.4	4	0.3	3					
3,000			3.5	33	2.4	24	1.4	14	0.6	6	
2,100			1.7	17	1.2	11	0.7	7	0.3	3	
1,500			0.9	8	0.6	6	0.4	4	0.2	2	
4,000					4.4	42	2.6	25	1.0	10	
2,800					2.1	21	1.2	13	0.5	5	
2,000					1.1	11	0.6	6	0.3	3	
Flow Rate (L/min)	One 125 mm		One 150 mm		Two 110 mm		Two 125 mm		Two 150 mm		
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	
5,000	4.0	39	1.6	16	1.7	17					
3,500	2.0	19	0.8	8	0.9	8					
2,500	1.0	10	0.4	4	0.4	4					
6,000			2.3	23	2.4	24	1.4	14	0.6	6	
4,200			1.1	11	1.2	12	0.7	7	0.3	3	

Flow Rate (L/min)	Number of Suction Hose and Size (inside diameter)									
	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
3,000			0.6	6	0.6	6	0.4	4	0.2	2
7,000			3.2	31	3.6	33	2.0	19	0.8	8
4,900			1.5	16	1.6	16	0.9	9	0.4	4
3,500			0.8	8	0.9	8	0.5	5	0.2	2
8,000					4.4	42	2.6	25	1.0	10
5,600					2.1	21	1.2	13	0.5	5
4,000					1.1	11	0.6	6	0.3	3
9,000							3.3	32	1.3	13
6,300							1.6	16	0.7	6
4,500							0.9	8	0.3	3
10,000							4.0	39	1.6	16
7,000							2.0	19	0.8	8
5,000							1.0	10	0.4	4
Flow Rate (L/min)	Two 150 mm		Three 150 mm		Four 150 mm		One 200 mm		Two 200 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
8,000	1.0	10					1.3	13		
5,600	0.5	5					0.6	6		
4,000	0.3	3					0.3	3		
9,000	1.3	13	0.6	6			1.7	17	0.4	4
6,300	0.7	6	0.3	3			0.7	7	0.2	2
4,500	0.3	3	0.2	2			0.4	4	0.1	1
10,000	1.6	16	0.7	7			2.1	21	0.5	4
7,000	0.8	8	0.4	4			1.0	9	0.2	2
5,000	0.4	4	0.2	2			0.5	4	0.1	1
12,000	2.3	23	1.09	10.1					0.7	7
8,400	1.1	12	0.52	5.1					0.3	3
6,000	0.58	5.7	0.27	2.71					0.18	1.69
14,000			1.42	13.9	0.8	8			1.0	9
9,800			0.88	8.6	0.4	4			0.5	4
7,000			0.36	3.56			0.21	2.03	0.21	2.03
16,000			1.5	15	1.0	10			1.3	13
11,200			0.9	8	0.5	5			0.6	6
8,000					0.27	2.71			0.31	3.05
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm			
	m water	kPa	m water	kPa	m water	kPa	m water	kPa		
18,000	0.64	6.43	0.7	6.77						
12,600	0.33	3.38	0.37	3.38						
9,000	0.17	1.52	0.18	1.69						
20,000	0.7	6.77	0.76	7.45						
14,000	0.37	3.72	0.46	4.4						
10,000	0.18	1.69	0.21	2.03						
22,000	0.76	7.45			0.64	6.43	0.58	5.76		
15,400	0.43	4.06			0.27	2.71	0.24	2.37		
11,000	0.21	2.03			0.15	1.35	0.15	1.22		
24,000	1.04	10.16			0.7	7.11	0.64	6.43		
16,800	0.61	5.76			0.31	3.05	0.27	2.71		
12,000	0.51	5.08			0.18	1.69	0.15	1.35		
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm			
	m water	kPa	m water	kPa	m water	kPa	m water	kPa		
26,000			0.76		7.45		0.7	7.11		
18,200			0.33		3.38		0.33	3.05		
13,000			0.21		2.03		0.18	1.69		
28,000			1.0		9.82		0.76	7.45		
19,600			0.46		4.4		0.33	3.38		
14,000			0.21		2.03		0.21	2.03		

Flow Rate (L/min)	Number of Suction Hose and Size (inside diameter)									
	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 m	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
30,000			1.13		11.17		0.82	8.47		
21,000			0.58		5.76		0.4	3.72		
15,000			0.33		3.38		0.27	2.71		

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Table_13.2.4.1_b_Continued.jpg	Change "Number of Suction Hose and Size (inside diameter)" values in "Table 13.2.4.1(b) Continued" on page 1900-108.	

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.

Table in error. The flow rates listed should have different Number of Suction Hose and Size (inside diameter) that what is shown.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 465-NFPA 1900-2025 [Section No. 13.2.4.1]	

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 16:47:56 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-423-NFPA 1900-2026

Statement: Rate all fire pumps at 150 psi, consistent across all flows and consistent with international pump ratings. The lower pressure ratings for larger pumps was based on the expectation/fear that the 2010 engines would not be able to match the horsepower of earlier engines. This expectation did not materialize, and larger engines continue to be available. Making this change would not only make US fire pump ratings consistent with foreign ratings of the same pumps, but they would be consistent across sizes. With all centrifugal fire pumps, lower pressure gives larger flow at the same drive speed. Under the current stepped rating system, a 2500 gpm at 150 psi pump(1750 at 200 psi, 1250 at 250 psi) is almost identical in performance to a 3500 gpm 100 psi (2450 gpm at 150 psi, 1750 gpm at 200 psi). Is this a 2500 gpm pump or a 3500 gpm pump? Likewise a 2750 gpm pump could be called a 4000 gpm pump. A 3000 gpm pump is really only a relabeled 2100 gpm pump. This would make no difference in what a specific configuration of engine and pump could produce, just what it could be called in ratings and advertising. It would be a more honest and consistent definition. Since industrial pumps seldom require 250 psi output (it is too high for large diameter hose capable of moving the water anyway), skip the 250 psi rating on 3000+ gpm pumps.

The ULC-515 Task Group noted that the conversions from US Gallons to Liters throughout the standard is not accurate. This public input is intended as a place holder for the NFPA 1900 committee to reconsider the practice of rounding off the values in liters.



Public Input No. 465-NFPA 1900-2025 [Section No. 13.2.4.1]

13.2.4.1*

The pump manufacturer shall certify that the fire pump is capable of pumping 100 percent of rated capacity at 150 psi (1000 kPa) net pump pressure for pumps rated at less than 3000 gpm (12,000 L/min) or at 100 psi (700 kPa) for pumps rated at 3000 gpm (12,000 L/min) or greater from draft through 20 ft (6 m) of suction hose with a strainer attached under the following conditions:

- (1) An altitude of 2000 ft (600 m) above sea level
- (2) Atmospheric pressure of 29.9 in. Hg (101 kPa) (corrected to sea level)
- (3) Water temperature of 60°F (15.6°C)
- (4) Suction hose size and number of hose not to exceed those indicated in Table 13.2.4.1(a)
- (5) Lift as indicated in Table 13.2.4.1(a)
- (6) Friction and entrance loss in suction hose, including strainer, as given in Table 13.2.4.1(b) or Table 13.2.4.1(c)

Table 13.2.4.1(a) Suction Hose Size, Number of Suction Lines, and Lift for Pump Manufacturer's Suction Capability Certification

<u>Rated Capacity</u>		<u>Suction Hose Size</u>		<u>Number of Suction Lines</u>	<u>Lift</u>	
<u>gpm</u>	<u>L/min</u>	<u>in.</u>	<u>mm</u>		<u>ft</u>	<u>m</u>
250	1,000	3	75	1	10	3
300	1,100	3	75	1	10	3
350	1,300	4	100	1	10	3
500	2,000	4½	110	1	10	3
750	3,000	4½	110	1	10	3
1,000	4,000	6	150	1	10	3
1,250	5,000	6	150	1	10	3
1,500	6,000	6	150	2	10	3
1,750	7,000	6	150	2	8	2.4
2,000	8,000	6	150	2	6	1.8
2,000	8,000	8	200	1	6	1.8
2,250	9,000	6	150	3	6	1.8
2,250	9,000	8	200	1	6	1.8
2,500	10,000	6	150	3	6	1.8
2,500	10,000	8	200	1	6	1.8
3,000	12,000	6	150	3	6	1.8
3,000	12,000	8	200	2	6	1.8
3,500	14,000	6	150	4	6	1.8
3,500	14,000	8	200	2	6	1.8
4,000	16,000	6	150	4	6	1.8
4,000	16,000	8	200	2	6	1.8
4,500	18,000	6	150	6	6	1.8
4,500	18,000	8	200	3	6	1.8
5,000	20,000	6	150	6	6	1.8
5,000	20,000	8	200	3	6	1.8
5,500	22,000	6	150	6	6	1.8
5,500	22,000	8	200	4	6	1.8
5,500	22,000	12	300	2	6	1.8
6,000	24,000	6	150	6	6	1.8
6,000	24,000	8	200	4	6	1.8
6,000	24,000	12	300	2	6	1.8
6,500	26,000	8	200	4	6	1.8
6,500	26,000	12	300	2	6	1.8
7,000	28,000	8	200	4	6	1.8
7,000	28,000	12	300	2	6	1.8
7,500	30,000	8	200	4	6	1.8
7,500	30,000	12	300	2	6	1.8

Table 13.2.4.1(b) Friction and Entrance Loss in 20 ft of Suction Hose, Including Strainer (United States customary system [USCS] units)

-	Number of Suction Hose and Size (inside diameter)									
	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
Flow Rate (gpm)										
250	5.2	4.6								
175	2.6	2.3								
125	1.4	1.2								

Number of Suction Hose and Size (inside diameter)										
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
300	7.5	6.6								
210	3.8	3.4								
150	1.9	1.7								
350			2.5	2.1						
245			1.2	1.1						
175			0.7	0.6						
500			5.0	4.4	3.6	3.2				
350			2.5	2.1	1.8	1.6				
250			1.3	1.1	0.9	0.8				
750			11.4	9.8	8.0	7.1	4.7	4.2	1.9	1.7
525			5.5	4.9	3.9	3.4	2.3	2.0	0.9	0.8
375			2.8	2.5	2.0	1.8	1.2	1.1	0.5	0.5
1000					14.5	12.5	8.4	7.4	3.4	3.0
700					7.0	6.2	4.1	3.7	1.7	1.5
500					3.6	3.2	2.1	1.9	0.9	0.8
Flow Rate (gpm)	One 5 in.		One 6 in.		Two 4½ in.		Two 5 in.		Two 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
1250	13.0	11.5	5.2	4.7	5.5	4.9				
875	6.5	5.7	2.6	2.3	2.8	2.5				
625	3.3	2.9	1.3	1.1	1.4	1.2				
1500			7.6	6.7	8.0	7.1	4.7	4.2	1.9	1.7
1050			3.7	3.3	3.9	3.4	2.3	2.0	0.9	0.8
750			1.9	1.7	2.0	1.8	1.2	1.1	0.5	0.5
1750			10.4	9.3	11.0	9.7	6.5	5.7	2.6	2.3
1225			5.0	4.6	5.3	4.7	3.1	2.7	1.2	1.1
875			2.6	2.3	2.8	2.5	1.6	1.4	0.7	0.6
2000					14.5	12.5	8.4	7.4	3.4	3.0
1400					7.0	6.2	4.1	3.7	1.7	1.5
1000					3.6	3.2	2.1	1.9	0.9	0.8
2250							10.8	9.5	4.3	3.8
1575							5.3	4.7	2.2	1.9
1125							2.8	2.5	1.1	1.0
2500							13.0	11.5	5.2	4.7
1750							6.5	5.7	2.6	2.3
1250							3.3	2.9	1.3	1.1
Flow Rate (gpm)	Two 6 in.		Three 6 in.		Four 6 in.		One 8 in.		Two 8 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
2000	3.4	3.0					4.3	3.8		
1400	1.7	1.5					2.0	1.8		
1000	0.9	0.8					1.0	0.9		
2250	4.3	3.8	2.0	1.8			5.6	5.0	1.2	1.1
1575	2.2	1.9	1.0	0.9			2.5	2.2	0.6	0.5
1125	1.1	1.0	0.5	0.5			1.2	1.1	0.3	0.3
2500	5.2	4.7	2.3	2.0			7.0	6.2	1.5	1.3
1750	2.6	2.3	1.2	1.1			3.2	2.8	0.8	0.7
1250	1.3	1.1	0.6	0.5			1.5	1.3	0.4	0.4
3000	7.6	6.9	3.4	3.0					2.3	2.1
2100	3.7	3.4	1.7	1.5					1.0	0.9
1500	1.9	1.7	0.9	0.8					0.6	0.5
3500	4.7	4.3	2.6	2.3			3.2	2.8		
2450	2.9	2.6	1.2	1.1			1.5	1.3		
1750	1.2	1.1	0.7	0.6			0.7	0.6		
4000			3.4	3.0			4.3	3.8		
2800			1.7	1.5			2.0	1.8		
2000			0.9	0.8			1.0	0.9		

Number of Suction Hose and Size (inside diameter)										
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
4500					2.1	1.9			2.3	2.0
3150					1.1	1.0			1.2	1.0
2250					0.55	0.45			0.6	0.5
5000					2.3	2.0			2.5	2.2
3500					1.2	1.1			1.5	1.3
2500					0.6	0.5			0.7	0.6
Flow Rate (gpm)	Six 6 in.		Four 8 in.		Two 12 in.					
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg				
5500	2.5	2.2	2.1	1.9	1.9	1.7				
3850	1.4	1.2	0.9	0.8	0.8	0.7				
2750	0.7	0.6	0.5	0.4	0.46	0.36				
6000	3.4	3.0	2.3	2.1	2.1	1.9				
4200	2.0	1.7	1.0	0.9	0.9	0.8				
3000	1.7	1.5	0.6	0.5	0.5	0.4				
6500			2.5	2.2	2.3	2.1				
4550			1.1	1.0	1.0	0.9				
3250			0.7	0.6	0.6	0.5				
7000			3.3	2.9	2.5	2.2				
4900			1.5	1.3	1.1	1.0				
3500			0.7	0.6	0.7	0.6				
7500			3.7	3.3	2.7	2.5				
5250			1.9	1.7	1.3	1.1				
3750			1.1	1	0.9	0.8				

Table 13.2.4.1(c) Friction and Entrance Loss in 6 m of Suction Hose, Including Strainer (SI units)

Number of Suction Hose and Size (inside diameter)											
Flow Rate (L/min)	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm		
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	
1,000	1.6	16									
700	0.8	8									
500	0.4	4									
1,100	2.2	22									
770	1.1	12									
550	0.6	6									
1,300			0.7	7							
910			0.4	4							
650			0.2	2							
2,000			1.5	15	1.1	11					
1,400			0.7	7	0.5	5					
1,000			0.4	4	0.3	3					
3,000			3.5	33	2.4	24	1.4	14	0.6	6	
2,100			1.7	17	1.2	11	0.7	7	0.3	3	
1,500			0.9	8	0.6	6	0.4	4	0.2	2	
4,000					4.4	42	2.6	25	1.0	10	
2,800					2.1	21	1.2	13	0.5	5	
2,000					1.1	11	0.6	6	0.3	3	
Flow Rate (L/min)	One 125 mm		One 150 mm		Two 110 mm		Two 125 mm		Two 150 mm		
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa	
5,000	4.0	39	1.6	16	1.7	17					
3,500	2.0	19	0.8	8	0.9	8					
2,500	1.0	10	0.4	4	0.4	4					
6,000			2.3	23	2.4	24	1.4	14	0.6	6	
4,200			1.1	11	1.2	12	0.7	7	0.3	3	

Flow Rate (L/min)	Number of Suction Hose and Size (inside diameter)									
	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
3,000			0.6	6	0.6	6	0.4	4	0.2	2
7,000			3.2	31	3.6	33	2.0	19	0.8	8
4,900			1.5	16	1.6	16	0.9	9	0.4	4
3,500			0.8	8	0.9	8	0.5	5	0.2	2
8,000					4.4	42	2.6	25	1.0	10
5,600					2.1	21	1.2	13	0.5	5
4,000					1.1	11	0.6	6	0.3	3
9,000							3.3	32	1.3	13
6,300							1.6	16	0.7	6
4,500							0.9	8	0.3	3
10,000							4.0	39	1.6	16
7,000							2.0	19	0.8	8
5,000							1.0	10	0.4	4
Flow Rate (L/min)	Two 150 mm		Three 150 mm		Four 150 mm		One 200 mm		Two 200 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
8,000	1.0	10					1.3	13		
5,600	0.5	5					0.6	6		
4,000	0.3	3					0.3	3		
9,000	1.3	13	0.6	6			1.7	17	0.4	4
6,300	0.7	6	0.3	3			0.7	7	0.2	2
4,500	0.3	3	0.2	2			0.4	4	0.1	1
10,000	1.6	16	0.7	7			2.1	21	0.5	4
7,000	0.8	8	0.4	4			1.0	9	0.2	2
5,000	0.4	4	0.2	2			0.5	4	0.1	1
12,000	2.3	23	1.09	10.1					0.7	7
8,400	1.1	12	0.52	5.1					0.3	3
6,000	0.58	5.7	0.27	2.71					0.18	1.69
14,000			1.42	13.9	0.8	8			1.0	9
9,800			0.88	8.6	0.4	4			0.5	4
7,000			0.36	3.56			0.21	2.03	0.21	2.03
16,000			1.5	15	1.0	10			1.3	13
11,200			0.9	8	0.5	5			0.6	6
8,000					0.27	2.71			0.31	3.05
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm			
	m water	kPa	m water	kPa	m water	kPa	m water	kPa		
18,000	0.64	6.43	0.7	6.77						
12,600	0.33	3.38	0.37	3.38						
9,000	0.17	1.52	0.18	1.69						
20,000	0.7	6.77	0.76	7.45						
14,000	0.37	3.72	0.46	4.4						
10,000	0.18	1.69	0.21	2.03						
22,000	0.76	7.45			0.64	6.43	0.58	5.76		
15,400	0.43	4.06			0.27	2.71	0.24	2.37		
11,000	0.21	2.03			0.15	1.35	0.15	1.22		
24,000	1.04	10.16			0.7	7.11	0.64	6.43		
16,800	0.61	5.76			0.31	3.05	0.27	2.71		
12,000	0.51	5.08			0.18	1.69	0.15	1.35		
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm			
	m water	kPa	m water	kPa	m water	kPa	m water	kPa		
26,000			0.76		7.45		0.7	7.11		
18,200			0.33		3.38		0.33	3.05		
13,000			0.21		2.03		0.18	1.69		
28,000			1.0		9.82		0.76	7.45		
19,600			0.46		4.4		0.33	3.38		
14,000			0.21		2.03		0.21	2.03		

Flow Rate (L/min)	Number of Suction Hose and Size (inside diameter)									
	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 m	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
30,000			1.13		11.17		0.82	8.47		
21,000			0.58		5.76		0.4	3.72		
15,000			0.33		3.38		0.27	2.71		

Additional Proposed Changes

File Name	Description	Approved
Table_13.2.4.1_b_Continued_-_One_12_in..jpg	Revise values in red in "Four 6 in." and "Two 8 in." columns. Add "One 12 in." column to table.	

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.
Revise values in table based on input from Gary Handwerk.
Add "One 12 in." column to table as pumps operating at higher flow rates can use one 12 inch hose in place of the other hoses listed.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 456-NFPA 1900-2025 [Section No. 13.2.4.1]	

Submitter Information Verification

Submitter Full Name: Brian Johnson
Organization: Waterous Company
Affiliation: NFPA 1900 Pump Task Group
Street Address:
City:
State:
Zip:
Submittal Date: Wed Aug 27 17:27:13 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: FR-423-NFPA 1900-2026

Statement: Rate all fire pumps at 150 psi, consistent across all flows and consistent with international pump ratings. The lower pressure ratings for larger pumps was based on the expectation/fear that the 2010 engines would not be able to match the horsepower of earlier engines. This expectation did not materialize, and larger engines continue to be available. Making this change would not only make US fire pump ratings consistent with foreign ratings of the same pumps, but they would be consistent across sizes. With all centrifugal fire pumps, lower pressure gives larger flow at the same drive speed. Under the current stepped rating system, a 2500 gpm at 150 psi pump(1750 at 200 psi, 1250 at 250 psi) is almost identical in performance to a 3500 gpm 100 psi (2450 gpm at 150 psi, 1750 gpm at 200 psi). Is this a 2500 gpm pump or a 3500 gpm pump? Likewise a 2750 gpm pump could be called a 4000 gpm pump. A 3000 gpm pump is really only a relabeled 2100 gpm pump. This would make no difference in what a specific configuration of engine and pump could produce, just what it could be called in ratings and advertising. It would be a more honest and consistent definition. Since industrial pumps seldom require 250 psi output (it is too high for large diameter hose capable of moving the water anyway), skip the 250 psi rating on 3000+ gpm pumps.

The ULC-515 Task Group noted that the conversions from US Gallons to Liters throughout the standard is not accurate. This public input is intended as a place holder for the NFPA 1900 committee to reconsider the practice of rounding off the values in liters.



Public Input No. 466-NFPA 1900-2025 [Section No. 13.2.4.1]

13.2.4.1*

The pump manufacturer shall certify that the fire pump is capable of pumping 100 percent of rated capacity at 150 psi (1000 kPa) net pump pressure for pumps rated at less than 3000 gpm (12,000 L/min) or at 100 psi (700 kPa) for pumps rated at 3000 gpm (12,000 L/min) or greater from draft through 20 ft (6 m) of suction hose with a strainer attached under the following conditions:

- (1) An altitude of 2000 ft (600 m) above sea level
- (2) Atmospheric pressure of 29.9 in. Hg (101 kPa) (corrected to sea level)
- (3) Water temperature of 60°F (15.6°C)
- (4) Suction hose size and number of hose not to exceed those indicated in Table 13.2.4.1(a)
- (5) Lift as indicated in Table 13.2.4.1(a)
- (6) Friction and entrance loss in suction hose, including strainer, as given in Table 13.2.4.1(b) or Table 13.2.4.1(c)

Table 13.2.4.1(a) Suction Hose Size, Number of Suction Lines, and Lift for Pump Manufacturer's Suction Capability Certification

<u>Rated Capacity</u>		<u>Suction Hose Size</u>		<u>Number of Suction Lines</u>	<u>Lift</u>	
<u>gpm</u>	<u>L/min</u>	<u>in.</u>	<u>mm</u>		<u>ft</u>	<u>m</u>
250	1,000	3	75	1	10	3
300	1,100	3	75	1	10	3
350	1,300	4	100	1	10	3
500	2,000	4½	110	1	10	3
750	3,000	4½	110	1	10	3
1,000	4,000	6	150	1	10	3
1,250	5,000	6	150	1	10	3
1,500	6,000	6	150	2	10	3
1,750	7,000	6	150	2	8	2.4
2,000	8,000	6	150	2	6	1.8
2,000	8,000	8	200	1	6	1.8
2,250	9,000	6	150	3	6	1.8
2,250	9,000	8	200	1	6	1.8
2,500	10,000	6	150	3	6	1.8
2,500	10,000	8	200	1	6	1.8
3,000	12,000	6	150	3	6	1.8
3,000	12,000	8	200	2	6	1.8
3,500	14,000	6	150	4	6	1.8
3,500	14,000	8	200	2	6	1.8
4,000	16,000	6	150	4	6	1.8
4,000	16,000	8	200	2	6	1.8
4,500	18,000	6	150	6	6	1.8
4,500	18,000	8	200	3	6	1.8
5,000	20,000	6	150	6	6	1.8
5,000	20,000	8	200	3	6	1.8
5,500	22,000	6	150	6	6	1.8
5,500	22,000	8	200	4	6	1.8
5,500	22,000	12	300	2	6	1.8
6,000	24,000	6	150	6	6	1.8
6,000	24,000	8	200	4	6	1.8
6,000	24,000	12	300	2	6	1.8
6,500	26,000	8	200	4	6	1.8
6,500	26,000	12	300	2	6	1.8
7,000	28,000	8	200	4	6	1.8
7,000	28,000	12	300	2	6	1.8
7,500	30,000	8	200	4	6	1.8
7,500	30,000	12	300	2	6	1.8

Table 13.2.4.1(b) Friction and Entrance Loss in 20 ft of Suction Hose, Including Strainer (United States customary system [USCS] units)

-	Number of Suction Hose and Size (inside diameter)									
	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
Flow Rate (gpm)										
250	5.2	4.6								
175	2.6	2.3								
125	1.4	1.2								

Number of Suction Hose and Size (inside diameter)										
Flow Rate (gpm)	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
300	7.5	6.6								
210	3.8	3.4								
150	1.9	1.7								
350			2.5	2.1						
245			1.2	1.1						
175			0.7	0.6						
500			5.0	4.4	3.6	3.2				
350			2.5	2.1	1.8	1.6				
250			1.3	1.1	0.9	0.8				
750			11.4	9.8	8.0	7.1	4.7	4.2	1.9	1.7
525			5.5	4.9	3.9	3.4	2.3	2.0	0.9	0.8
375			2.8	2.5	2.0	1.8	1.2	1.1	0.5	0.5
1000					14.5	12.5	8.4	7.4	3.4	3.0
700					7.0	6.2	4.1	3.7	1.7	1.5
500					3.6	3.2	2.1	1.9	0.9	0.8
Flow Rate (gpm)	One 5 in.		One 6 in.		Two 4½ in.		Two 5 in.		Two 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
1250	13.0	11.5	5.2	4.7	5.5	4.9				
875	6.5	5.7	2.6	2.3	2.8	2.5				
625	3.3	2.9	1.3	1.1	1.4	1.2				
1500			7.6	6.7	8.0	7.1	4.7	4.2	1.9	1.7
1050			3.7	3.3	3.9	3.4	2.3	2.0	0.9	0.8
750			1.9	1.7	2.0	1.8	1.2	1.1	0.5	0.5
1750			10.4	9.3	11.0	9.7	6.5	5.7	2.6	2.3
1225			5.0	4.6	5.3	4.7	3.1	2.7	1.2	1.1
875			2.6	2.3	2.8	2.5	1.6	1.4	0.7	0.6
2000					14.5	12.5	8.4	7.4	3.4	3.0
1400					7.0	6.2	4.1	3.7	1.7	1.5
1000					3.6	3.2	2.1	1.9	0.9	0.8
2250							10.8	9.5	4.3	3.8
1575							5.3	4.7	2.2	1.9
1125							2.8	2.5	1.1	1.0
2500							13.0	11.5	5.2	4.7
1750							6.5	5.7	2.6	2.3
1250							3.3	2.9	1.3	1.1
Flow Rate (gpm)	Two 6 in.		Three 6 in.		Four 6 in.		One 8 in.		Two 8 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
2000	3.4	3.0					4.3	3.8		
1400	1.7	1.5					2.0	1.8		
1000	0.9	0.8					1.0	0.9		
2250	4.3	3.8	2.0	1.8			5.6	5.0	1.2	1.1
1575	2.2	1.9	1.0	0.9			2.5	2.2	0.6	0.5
1125	1.1	1.0	0.5	0.5			1.2	1.1	0.3	0.3
2500	5.2	4.7	2.3	2.0			7.0	6.2	1.5	1.3
1750	2.6	2.3	1.2	1.1			3.2	2.8	0.8	0.7
1250	1.3	1.1	0.6	0.5			1.5	1.3	0.4	0.4
3000	7.6	6.9	3.4	3.0					2.3	2.1
2100	3.7	3.4	1.7	1.5					1.0	0.9
1500	1.9	1.7	0.9	0.8					0.6	0.5
3500	4.7	4.3	2.6	2.3			3.2	2.8		
2450	2.9	2.6	1.2	1.1			1.5	1.3		
1750	1.2	1.1	0.7	0.6			0.7	0.6		
4000			3.4	3.0			4.3	3.8		
2800			1.7	1.5			2.0	1.8		
2000			0.9	0.8			1.0	0.9		

Flow Rate (gpm)	Number of Suction Hose and Size (inside diameter)									
	One 3 in.		One 4 in.		One 4½ in.		One 5 in.		One 6 in.	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
4500					2.1	1.9			2.3	2.0
3150					1.1	1.0			1.2	1.0
2250					0.55	0.45			0.6	0.5
5000					2.3	2.0			2.5	2.2
3500					1.2	1.1			1.5	1.3
2500					0.6	0.5			0.7	0.6
Flow Rate (gpm)	Six 6 in.		Four 8 in.		Two 12 in.					
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg				
5500	2.5	2.2	2.1	1.9	1.9	1.7				
3850	1.4	1.2	0.9	0.8	0.8	0.7				
2750	0.7	0.6	0.5	0.4	0.46	0.36				
6000	3.4	3.0	2.3	2.1	2.1	1.9				
4200	2.0	1.7	1.0	0.9	0.9	0.8				
3000	1.7	1.5	0.6	0.5	0.5	0.4				
6500			2.5	2.2	2.3	2.1				
4550			1.1	1.0	1.0	0.9				
3250			0.7	0.6	0.6	0.5				
7000			3.3	2.9	2.5	2.2				
4900			1.5	1.3	1.1	1.0				
3500			0.7	0.6	0.7	0.6				
7500			3.7	3.3	2.7	2.5				
5250			1.9	1.7	1.3	1.1				
3750			1.1	1	0.9	0.8				

Table 13.2.4.1(c) Friction and Entrance Loss in 6 m of Suction Hose, Including Strainer (SI units)

Flow Rate (L/min)	Number of Suction Hose and Size (inside diameter)									
	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
1,000	1.6	16								
700	0.8	8								
500	0.4	4								
1,100	2.2	22								
770	1.1	12								
550	0.6	6								
1,300			0.7	7						
910			0.4	4						
650			0.2	2						
2,000			1.5	15	1.1	11				
1,400			0.7	7	0.5	5				
1,000			0.4	4	0.3	3				
3,000			3.5	33	2.4	24	1.4	14	0.6	6
2,100			1.7	17	1.2	11	0.7	7	0.3	3
1,500			0.9	8	0.6	6	0.4	4	0.2	2
4,000					4.4	42	2.6	25	1.0	10
2,800					2.1	21	1.2	13	0.5	5
2,000					1.1	11	0.6	6	0.3	3
Flow Rate (L/min)	One 125 mm		One 150 mm		Two 110 mm		Two 125 mm		Two 150 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
5,000	4.0	39	1.6	16	1.7	17				
3,500	2.0	19	0.8	8	0.9	8				
2,500	1.0	10	0.4	4	0.4	4				
6,000			2.3	23	2.4	24	1.4	14	0.6	6
4,200			1.1	11	1.2	12	0.7	7	0.3	3

Flow Rate (L/min)	Number of Suction Hose and Size (inside diameter)									
	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
3,000			0.6	6	0.6	6	0.4	4	0.2	2
7,000			3.2	31	3.6	33	2.0	19	0.8	8
4,900			1.5	16	1.6	16	0.9	9	0.4	4
3,500			0.8	8	0.9	8	0.5	5	0.2	2
8,000					4.4	42	2.6	25	1.0	10
5,600					2.1	21	1.2	13	0.5	5
4,000					1.1	11	0.6	6	0.3	3
9,000							3.3	32	1.3	13
6,300							1.6	16	0.7	6
4,500							0.9	8	0.3	3
10,000							4.0	39	1.6	16
7,000							2.0	19	0.8	8
5,000							1.0	10	0.4	4
Flow Rate (L/min)	Two 150 mm		Three 150 mm		Four 150 mm		One 200 mm		Two 200 mm	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
8,000	1.0	10					1.3	13		
5,600	0.5	5					0.6	6		
4,000	0.3	3					0.3	3		
9,000	1.3	13	0.6	6			1.7	17	0.4	4
6,300	0.7	6	0.3	3			0.7	7	0.2	2
4,500	0.3	3	0.2	2			0.4	4	0.1	1
10,000	1.6	16	0.7	7			2.1	21	0.5	4
7,000	0.8	8	0.4	4			1.0	9	0.2	2
5,000	0.4	4	0.2	2			0.5	4	0.1	1
12,000	2.3	23	1.09	10.1					0.7	7
8,400	1.1	12	0.52	5.1					0.3	3
6,000	0.58	5.7	0.27	2.71					0.18	1.69
14,000			1.42	13.9	0.8	8			1.0	9
9,800			0.88	8.6	0.4	4			0.5	4
7,000			0.36	3.56			0.21	2.03	0.21	2.03
16,000			1.5	15	1.0	10			1.3	13
11,200			0.9	8	0.5	5			0.6	6
8,000					0.27	2.71			0.31	3.05
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm			
	m water	kPa	m water	kPa	m water	kPa	m water	kPa		
18,000	0.64	6.43	0.7	6.77						
12,600	0.33	3.38	0.37	3.38						
9,000	0.17	1.52	0.18	1.69						
20,000	0.7	6.77	0.76	7.45						
14,000	0.37	3.72	0.46	4.4						
10,000	0.18	1.69	0.21	2.03						
22,000	0.76	7.45			0.64	6.43	0.58	5.76		
15,400	0.43	4.06			0.27	2.71	0.24	2.37		
11,000	0.21	2.03			0.15	1.35	0.15	1.22		
24,000	1.04	10.16			0.7	7.11	0.64	6.43		
16,800	0.61	5.76			0.31	3.05	0.27	2.71		
12,000	0.51	5.08			0.18	1.69	0.15	1.35		
Flow Rate (L/min)	Six 150 mm		Three 200 mm		Four 200 mm		Two 300 mm			
	m water	kPa	m water	kPa	m water	kPa	m water	kPa		
26,000			0.76		7.45		0.7	7.11		
18,200			0.33		3.38		0.33	3.05		
13,000			0.21		2.03		0.18	1.69		
28,000			1.0		9.82		0.76	7.45		
19,600			0.46		4.4		0.33	3.38		
14,000			0.21		2.03		0.21	2.03		

Flow Rate (L/min)	Number of Suction Hose and Size (inside diameter)									
	One 75 mm		One 100 mm		One 110 mm		One 125 mm		One 150 m	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
30,000			1.13		11.17		0.82	8.47		
21,000			0.58		5.76		0.4	3.72		
15,000			0.33		3.38		0.27	2.71		

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Table_13.2.4.1_c_.jpg	Revised Number of Suction Hose and Size (inside diameter) columns.	

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.
Table in error. Number of Suction Hose and Size (inside diameter) column headers need to be corrected.

Submitter Information Verification

Submitter Full Name: Brian Johnson
Organization: Waterous Company
Affiliation: NFPA 1900 Pump Task Group
Street Address:
City:
State:
Zip:
Submission Date: Wed Aug 27 17:36:11 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: FR-423-NFPA 1900-2026

Statement: Rate all fire pumps at 150 psi, consistent across all flows and consistent with international pump ratings. The lower pressure ratings for larger pumps was based on the expectation/fear that the 2010 engines would not be able to match the horsepower of earlier engines. This expectation did not materialize, and larger engines continue to be available. Making this change would not only make US fire pump ratings consistent with foreign ratings of the same pumps, but they would be consistent across sizes. With all centrifugal fire pumps, lower pressure gives larger flow at the same drive speed. Under the current stepped rating system, a 2500 gpm at 150 psi pump(1750 at 200 psi, 1250 at 250 psi) is almost identical in performance to a 3500 gpm 100 psi (2450 gpm at 150 psi, 1750 gpm at 200 psi). Is this a 2500 gpm pump or a 3500 gpm pump? Likewise a 2750 gpm pump could be called a 4000 gpm pump. A 3000 gpm pump is really only a relabeled 2100 gpm pump. This would make no difference in what a specific configuration of engine and pump could produce, just what it could be called in ratings and advertising. It would be a more honest and consistent definition. Since industrial pumps seldom require 250 psi output (it is too high for large diameter hose capable of moving the water anyway), skip the 250 psi rating on 3000+ gpm pumps.

The ULC-515 Task Group noted that the conversions from US Gallons to Liters throughout the standard is not accurate. This public input is intended as a place holder for the NFPA 1900 committee to reconsider the practice of rounding off the values in liters.

**Public Input No. 329-NFPA 1900-2025 [Sections 13.3.1, 13.3.2]****Sections 13.3.1, 13.3.2****13.3.1 * –**

The apparatus manufacturer shall approve the use of the pumping engine for stationary pumping applications based on the size of the fire apparatus and the rating of the pump being furnished.

13.3.2 – Engine Speed.**13.3.2.1 –**

The engine shall be capable of performing the pumping tests herein specified without exceeding the maximum governed speed of the engine as shown on a certified brake horsepower curve of the type of engine used without accessories.

13.3.2.2 –

The brake horsepower curve certification shall be signed by a responsible official of the engine manufacturer.

Statement of Problem and Substantiation for Public Input

This requirement is superfluous. The engine can not exceed its governed speed, and the pumps tests prove that the engine has sufficient power. The design engineer needs to verify that every component selected for the apparatus will do the intended job.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 330-NFPA 1900-2025 [Sections 15.3.1, 15.3.2, 15.3.3, 15.3.4, 15.3.5, 15.3.6]	
Public Input No. 342-NFPA 1900-2025 [Section No. A.13.3.1]	
Public Input No. 330-NFPA 1900-2025 [Sections 15.3.1, 15.3.2, 15.3.3, 15.3.4, 15.3.5, 15.3.6]	
Public Input No. 342-NFPA 1900-2025 [Section No. A.13.3.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 30 15:47:17 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This information was added due to historical issues in sizing engines to pumps. The task group understands that drivetrains may be changing due to electrification but believes retaining this verbiage will help to ensure there is sufficient brake horsepower going forward.

**Public Input No. 12-NFPA 1900-2024 [Sections 13.3.1, 13.3.2]****Sections 13.3.1, 13.3.2****13.3.1 *** –

The apparatus manufacturer shall approve the use of the pumping engine for stationary pumping applications based on the size of the fire apparatus and the rating of the pump being furnished.

13.3.2 – Engine Speed.**13.3.2.1** –

The engine shall be capable of performing the pumping tests herein specified without exceeding the maximum governed speed of the engine as shown on a certified brake horsepower curve of the type of engine used without accessories.

13.3.2.2 –

The brake horsepower curve certification shall be signed by a responsible official of the engine manufacturer.

Statement of Problem and Substantiation for Public Input

13.3.1 states that the apparatus manufacturer shall approve the use of the pumping engine... There is no criteria for this approval, and the approval is implied by the fact that the manufacturer is installing it in the truck. 13.3.2 is silly, because fact that the engine has a governed speed means that the governor will drop the power to maintain the engine at or below this speed, so the requirement is moot. Horsepower and torque curves are readily available on-line and there is no need in this modern age to have the curve certification signed by a "responsible official of the engine manufacturer". The curves are all official by virtue of the fact that they are developed under the eyes of the EPA. Remove all this text as it is not useful any more.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 08:56:01 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: This information was added due to historical issues in sizing engines to pumps. The committee understands that drivetrains may be changing due to electrification but believes retaining this verbiage will help to ensure there is sufficient brake horsepower going forward.

**Public Input No. 319-NFPA 1900-2025 [Section No. 13.3.2]**

13.3.2 – Engine Speed.

13.3.2.1 –

The engine shall be capable of performing the pumping tests herein specified without exceeding the maximum governed speed of the engine as shown on a certified brake horsepower curve of the type of engine used without accessories.

13.3.2.2 –

The brake horsepower curve certification shall be signed by a responsible official of the engine manufacturer.

Statement of Problem and Substantiation for Public Input

This section is not a relevant requirement. The engine must be capable of meeting all the pump test requirements in this chapter without exceeding the governed speed, because a governed speed by definition cannot be exceeded. The requirement for someone to sign an engine certification document is silly given the fact that any diesel engine you can purchase is from a major corporation and all there products must meet the requirements and be tested in compliance with EPA standards already.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jun 27 09:16:08 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This information was added due to historical issues in sizing engines to pumps. The committee understands that drivetrains may be changing due to electrification but believes retaining this verbiage will help to ensure there is sufficient brake horsepower going forward.

**Public Input No. 13-NFPA 1900-2024 [Section No. 13.4.1]****13.4.1 –**

All components in the power train from the engine to the fire pump shall be capable of transmitting the torque necessary to power the pump, as installed in the apparatus, for the pump performance points specified in 13.2.3.1 or 13.2.3.2, as applicable, without exceeding the component manufacturer's continuous duty torque rating.

Statement of Problem and Substantiation for Public Input

This section is unnecessary. This standard requires pump testing that will not pass unless the apparatus manufacturer specifies a powertrain meeting these requirements.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 09:19:31 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: This information was added due to historical issues in sizing engines to pumps. The committee understands that drivetrains may be changing due to electrification but believes retaining this verbiage will help to ensure there is sufficient brake horsepower going forward.

**Public Input No. 153-NFPA 1900-2025 [Section No. 13.6.5]****13.6.5***

Each valved intake shall be equipped with a bleeder valve.

13.6.5.1

The bleeder valve shall be ~~operational~~ operable without the operator having to get under the apparatus.

13.6.5.2

If a valved appliance is attached to an intake, it shall be equipped with a bleeder valve on each intake.

13.6.5.3

Bleeder valves for valved intakes 4 in. (100 mm) and larger not located at the pump operator's panel shall be located where the bleeder valve controls are visible and ~~operationally functional~~ operable while the operator remains stationary at the valved intake position.

Statement of Problem and Substantiation for Public Input

Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 154-NFPA 1900-2025 [Section No. 13.8.2]	
Public Input No. 155-NFPA 1900-2025 [Section No. 13.12.1.2]	
Public Input No. 156-NFPA 1900-2025 [Section No. 14.9.6.2]	
Public Input No. 157-NFPA 1900-2025 [Section No. 15.8.2]	
Public Input No. 158-NFPA 1900-2025 [Section No. 16.8.5.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 14:40:37 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-307-NFPA 1900-2026](#)

Statement: Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

**Public Input No. 16-NFPA 1900-2024 [New Section after 13.6.8.1]****Automatic Pressure Release Intake Caps**

Threaded caps shall automatically release pressure before the threads are completely disengaged.

Statement of Problem and Substantiation for Public Input

Caps with grooves in the threads that release pressure before the cap is off have been available for two decades. They can prevent accidents where the FF forgets to bleed pressure that can be trapped between a closed valve and the cap.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 17-NFPA 1900-2024 [Section No. 13.7.4.3]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 09:42:28 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-337-NFPA 1900-2026

Statement: Caps with grooves in the threads that release pressure before the cap is off have been available for two decades. They can prevent accidents where the FF forgets to bleed pressure that can be trapped between a closed valve and the cap.

The need for caps, plugs, or closures are already stated in the paragraph above. These paragraphs are redundant and/or state the obvious. Remove text as unnecessary.

Make terminology consistent with other references to caps

**Public Input No. 14-NFPA 1900-2024 [Sections 13.6.8.1, 13.6.8.2, 13.6.8.3]****Sections 13.6.8.1, 13.6.8.2, 13.6.8.3****13.6.8.1 –**

~~Intakes having male threads shall be equipped with caps.~~

13.6.8.2 –

~~Intakes having female threads shall be equipped with plugs.~~

13.6.8.3 –

~~Where adapters for special threads or other means for hose attachment are provided on the intakes, closures shall be provided for the adapters in lieu of caps or plugs.~~

Statement of Problem and Substantiation for Public Input

The need for caps, plugs, or closures are already stated in the paragraph above. These paragraphs are redundant and/or state the obvious. Remove text as unnecessary.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 24 09:26:35 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-337-NFPA 1900-2026](#)

Statement: Caps with grooves in the threads that release pressure before the cap is off have been available for two decades. They can prevent accidents where the FF forgets to bleed pressure that can be trapped between a closed valve and the cap.

The need for caps, plugs, or closures are already stated in the paragraph above. These paragraphs are redundant and/or state the obvious. Remove text as unnecessary.

Make terminology consistent with other references to caps

**Public Input No. 159-NFPA 1900-2025 [Section No. 13.6.8.4]****13.6.8.4**

Caps, plugs, or closures for $3\frac{1}{2}$ - inlet connections smaller than 4 in. (90 mm 100 mm) ~~and smaller intakes~~ shall remain secured to the apparatus when removed from the intakes.

Statement of Problem and Substantiation for Public Input

Make terminology consistent with other references to caps, such as 13.7.4.2, 14.6.2.3, and 14.7.4.2.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 15:08:20 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-337-NFPA 1900-2026](#)

Statement: Caps with grooves in the threads that release pressure before the cap is off have been available for two decades. They can prevent accidents where the FF forgets to bleed pressure that can be trapped between a closed valve and the cap.

The need for caps, plugs, or closures are already stated in the paragraph above. These paragraphs are redundant and/or state the obvious. Remove text as unnecessary.

Make terminology consistent with other references to caps

**Public Input No. 65-NFPA 1900-2024 [Section No. 13.7.3]****13.7.3***

The piping and valves supplying any preconnected 1½ in. (38 mm), 1¾ in. (45 mm), or 2 in. (52 mm) hose line, ~~including piping to the preconnected hose storage areas specified in Table 8.1, as applicable,~~ shall be at least 2 in. (52 mm) in size.

Statement of Problem and Substantiation for Public Input

Table 8.1 no longer specifies hose, so the phrase should be removed. The intent of the standard is still the same.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Dec 26 14:06:03 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: There remains a minimum size for preconnected hose. Table 8.1, even though it does not specify hose, it still specifies Hose Storage, which is what the verbiage is referring to. Keeping the reference to table 8.1 helps clarify the plumbing size to be used.

**Public Input No. 15-NFPA 1900-2024 [Section No. 13.7.4 [Excluding any Sub-Sections]]**

All discharge outlet connections, except connections to which a hose will be preconnected, shall be equipped with caps or closures capable of withstanding a hydrostatic gauge pressure of 100 psi (700 kPa) ~~over above~~ the maximum ~~pump close-off pressure or~~ ~~pressure the pump can produce with all valves closed, or~~ 500 psi (3400 kPa), whichever is greater.

Statement of Problem and Substantiation for Public Input

The term "pump close-off pressure" is not defined in this standard. Revised wording for clarity.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 09:33:09 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-308-NFPA 1900-2026](#)

Statement: The term "pump close-off pressure" is not defined in this standard. Revised wording for clarity.

**Public Input No. 17-NFPA 1900-2024 [Section No. 13.7.4.3]****13.7.4.3**

Threaded caps shall automatically release pressure in the discharge outlet before the pressure before the threads are completely disengaged - unless the outlet and the cap are equipped with drains or bleeder valves .

Statement of Problem and Substantiation for Public Input

Caps with grooves in the threads that release pressure before the cap is off have been available for two decades. They can prevent accidents where the FF forgets to bleed pressure that can be trapped between a closed valve and the cap. They should be used with or without bleeder devices.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 16-NFPA 1900-2024 [New Section after 13.6.8.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 24 09:50:08 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-338-NFPA 1900-2026

Statement: Caps with grooves in the threads that release pressure before the cap is off have been available for two decades. They can prevent accidents where the FF forgets to bleed pressure that can be trapped between a closed valve and the cap. They should be used with or without bleeder devices.

**Public Input No. 161-NFPA 1900-2025 [Sections 13.7.5, 13.7.6, 13.7.7, 13.7.8]****Sections 13.7.5, 13.7.6, 13.7.7, 13.7.8****13.7.5– Valves**

Each discharge outlet shall be equipped with a valve that can be opened and closed smoothly at the discharge rates shown in Table 13.7.1 at a pump discharge gauge pressure of 250 psi (1700 kPa).

13.7.5.1

The flow-regulating element of each valve shall not change its position under any condition of operation that involves discharge pressures to the maximum pressure of the pump.

13.7.5.2

The means to prevent a change in position shall be incorporated in the operating mechanism and shall be permitted to be manually or automatically controlled.

13.7.5.3*

Any 3 in. (75 mm) or larger discharge valve shall be a slow-operating valve.

13.7.5.4

Each pump discharge shall have a valve that can be controlled from the pump operator's position.

13.7.5.5

A secondary valve shall be permitted to be provided at a discharge outlet if required for special applications.

13.7.6

All 1½ in. (38 mm) or larger discharge outlets shall be equipped with a drain or bleeder valve having a minimum ¾ in. (19 mm) pipe thread connection for draining or bleeding off pressure from a hose connected to the outlet.

13.7.7

Any 2 in. (52 mm) or larger discharge outlet that is located more than 42 in. (1070 mm) off the ground to which hose is to be connected and that is not in a hose storage area shall be supplied with a sweep elbow of at least 30 degrees downward.

13.7.8 – Valves.**13.7.8.1 –**

~~Each pump discharge shall have a valve that can be controlled from the pump operator's position.~~

13.7.8.2 –

~~A secondary valve shall be permitted to be provided at a discharge outlet if required for special applications.~~

Statement of Problem and Substantiation for Public Input

Pull all the valve information together under the Valves heading. No change in requirements.

Related Public Inputs for This Document**Related Input****Relationship**

Public Input No. 162-NFPA 1900-2025 [Sections 15.7.5, 15.7.6, 15.7.7, 15.7.8]

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 15:36:24 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-309-NFPA 1900-2026](#)

Statement: Pull all the valve information together under the Valves heading. No change in requirements.

**Public Input No. 63-NFPA 1900-2024 [Section No. 13.7.9.1]****13.7.9.1**

No discharge outlet larger than 2½ in. (65 mm) shall be located at the pump operator's panel unless there are alternate locations on the apparatus from which the pump operator can control the pumping functions .

13.7.9.1.1

Safety sign FAMA64, which warns not to operate pump controls from this position when large diameter discharge hose is connected and flowing, shall be placed next to any large diameter discharge that is located at a pump operator's panel.

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
FAMA64.jpg	Safety Sign FAMA64	

Statement of Problem and Substantiation for Public Input

Prudent safe operation dictates that we do not want large diameter discharge hose near a pump operator while the hose is pressurized. Some modern pump control systems such as the IDEX SAM system have a remote control pad that can allow the operator to control the pump without standing near the traditional pump operator's panel. Other systems allow pump control from multiple locations on the apparatus. In fact, if the apparatus is equipped with control displays on both sides and the back of the apparatus, the literal interpretation of the standard would mean that the apparatus could not be equipped with any LDH discharge at all (since large discharges are not practical at the front of the truck because the large piping interferes with the front suspension, wheels, tires, etc.).

A reasonable compromise is to allow LDH at a traditional pump panel location as long as the apparatus is equipped with other locations from which to control the pump operation, or if the system has a remote control. It is also then prudent to add a warning label to educate the operator that they should not operate around a large diameter discharge while it is flowing.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 64-NFPA 1900-2024 [Section No. A.13.7.9]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Dec 26 13:44:47 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-417-NFPA 1900-2026](#)

Statement: Prudent safe operation dictates that we do not want large diameter discharge hose near a pump operator while the hose is pressurized. Some modern pump control systems such as the IDEX SAM system have a remote control pad that can allow the operator to control the pump without standing near the traditional pump operator's panel. Other systems allow pump control from multiple locations on the apparatus. In fact, if the apparatus is equipped with control displays on both sides and the back of the apparatus, the literal interpretation of the standard would mean that the apparatus could not be equipped with any LDH discharge at all (since large discharges are not practical at the front of the truck because the large piping interferes with the front suspension, wheels, tires, etc.).

A reasonable compromise is to allow LDH at a traditional pump panel location as long as the apparatus is equipped with other locations from which to control the pump operation, or if the system has a remote control. It is also then prudent to add a warning label to educate the operator that they should not operate around a large diameter discharge while it is flowing.

**Public Input No. 154-NFPA 1900-2025 [Section No. 13.8.2]****13.8.2**

The drain valve(s) shall be ~~operational~~ operable without the operator having to get under the apparatus.

Statement of Problem and Substantiation for Public Input

Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 153-NFPA 1900-2025 [Section No. 13.6.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 14:45:18 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-310-NFPA 1900-2026](#)

Statement: Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

**Public Input No. 19-NFPA 1900-2024 [Section No. 13.10.1]****13.10.1 General Provisions.**

Provisions shall be made for placing the pump drive system in operation using controls and switches that are identified and within convenient reach of the operator. Pump controls shall be identified and within reach of the operator.

13.10.1.1

Where the pump is driven by the chassis engine and engine compression brakes or engine exhaust brakes are furnished, these engine brakes shall be automatically disengaged for pumping operations.

13.10.1.2 * –

Any control device used in the pumping system power train between the engine and the pump, except a manual pump shift override device if provided, shall be equipped with a means to prevent unintentional movement of the control device from its set position in the pumping mode. The auxiliary braking system shall be disabled if its operation would affect pump performance .

13.10.1.3

Where the pump is driven by the chassis engine, a label indicating the chassis transmission shift selector position to be used for pumping shall be provided in the driving compartment and located so that it can be read from the driver's position. Instructions on how to shift the pump shall be accessible from the driver's position .

13.10.1.4

Where the pump is driven by the chassis engine and automatic transmission through a split shaft PTO, an interlock system shall be provided to prevent the pump drive system from being shifted out of the "pump engaged" pumping mode of operation when the chassis transmission is in pump gear. Pump controls other than an emergency manual shift, if provided, shall be designed to prevent an operator from unintentionally shifting out of pump mode .

13.10.1.5 –

Where the power train from engine to pump includes auxiliary braking devices, they shall be automatically disengaged for pumping operations.

13.10.1.6

Where the pump is driven by the chassis engine and an automatic chassis transmission through a split-shaft PTO, the chassis transmission shall shift to neutral upon engagement of the parking brake.

Statement of Problem and Substantiation for Public Input

Text rewritten to simplify the words and improve readability. Changed from design-based to performance-based specifications where possible. Eliminated redundancy between 13.10.1.1 and 13.10.1.5.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 18-NFPA 1900-2024 [Section No. 13.10.1.3]</u>	Proposed changes in PI18 are also in this PI

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 10:15:39 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: Verbiage was created to specifically state the pump shift requirements and sequence. This was done to prevent issues or complexities that could cause issues on the fire ground. A label is a necessary way to indicate the shift sequence. Label requirements should be maintained as "instructions accessible from the driver's position" is vague and could allow for confusion.

**Public Input No. 18-NFPA 1900-2024 [Section No. 13.10.1.3]****13.10.1.3**

Where the pump is driven by the chassis engine, ~~a label indicating the chassis transmission shift selector position to be used for pumping shall be provided in the driving compartment and located so that it can be read from the driver's~~ instructions on how to shift the pump shall be accessible from the driving position.

Statement of Problem and Substantiation for Public Input

A label is not necessary to meet the intent and is design-restrictive. Other possible means include voice prompts or visual displays.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 19-NFPA 1900-2024 [Section No. 13.10.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 09:59:43 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-334-NFPA 1900-2026

Statement: Text rewritten to simplify the words and improve readability. Changed from design-based to performance-based specifications where possible. Eliminated redundancy between 13.10.1.1 and 13.10.1.5.



Public Input No. 20-NFPA 1900-2024 [Section No. 13.10.2]

13.10.2* – Interlocks and Indicators.

Where the water pump is driven by the chassis engine, an interlock system shall be provided to ensure that the pump drive system components are engaged in the pumping mode of operation so that the pumping system can be operated from the pump operator's position, with indicators to inform the operators of the status of the controls.

Pump Control Indicators.**13.10.2.1 *** –

Required Indicators.

13.10.2.1.1 –

All apparatus shall have both a "Pump Engaged" indicator and an "OK to Pump" indicator in the driver compartment

Pump Engaged.

A "Pump Engaged" indication shall be visible at the driving position when the pump shift has been successfully completed .

13.10.2.

4.

2

* –

All apparatus shall have both a "Throttle Ready" indicator and an "OK to Pump" indicator on the pump operator's panel .

13.10.2.

1

3–

If a manual means of engaging the apparatus pump is designed to do pump-and-roll, an "OK to Pump-and-Roll" indicator shall also be in the driver compartment.

13.10.2.2 * – Pump Engaged.

A "Pump Engaged" indicator shall be provided in the driving compartment to indicate the pump shift has been successfully completed.

provided in addition to a power means, both means shall activate the "Pump Engaged" indication.

13.10.2.3 2 OK to Pump.

An "OK to Pump" indicator indication shall be provided in visible at the driving compartment position and on the pump operator's panel to indicate that all of the following conditions have been met to safely operate the pump in stationary mode:

- The pump shift is engaged.
- The parking brake is engaged.
- If the pump is driven from a transfer case PTO or auxiliary transmission PTO, the drive to the wheels is in neutral.
- If the apparatus is equipped with an automatic transmission, the chassis transmission is in the correct pump gear as identified in 13.10.1.3 as follows:

- (1) If the pump is driven by a PTO after the chassis transmission gearing (e.g., split shaft PTO, transfer case PTO, etc.) the transmission is in the correct forward drive gear.
- (2) If the pump is driven by a PTO ahead of the chassis transmission gearing (e.g., flywheel PTO, crankshaft PTO, etc.) the transmission is in neutral.

If the apparatus is equipped with a manual transmission, any gear, including neutral, will allow an "OK to Pump" indicator to come on provided all other conditions are met position when:

- (1) Pump is Engaged
- (2) Park brake is set.
- (3) Powertrain is in a condition to allow pumping .

13.10.2.4.3 * OK to Pump-and-Roll.

If the apparatus is designed to be used in both stationary pumping mode and “pump-and-roll” pumping mode, an “OK to Pump-and-Roll” indicator shall be provided in the driving compartment to indicate that all of the following conditions have been met to safely operate the pump in pump-and-roll mode:

13.10.2.5.3 * –

~~The “Throttle Ready” indicator at the pump operator’s panel shall be permitted to indicate when the parking brake is engaged and, if the apparatus is equipped with an automatic transmission, when the chassis transmission is in neutral.~~

~~(1) The pump shift Pump is engaged Engaged .~~

~~(2) The parking brake Park brake is released.~~

13.10.2.5 – Throttle Ready.**13.10.2.5.1** –

~~A “Throttle Ready” indicator shall be provided on the pump operator’s panel.~~

13.10.2.5.2 –

~~The “Throttle Ready” indicator shall indicate when the pump is in “OK to Pump” mode.~~

~~(1) Powertrain is in a condition to allow pump and roll .~~

13.10.2.5.4

~~If there are multiple pumps, generators, aerial devices, hydraulic pumps, or other devices powered off of the chassis engine, the “Throttle Ready” indicator shall only indicate when all such devices are in a mode where the advancement of the engine throttle is safe.~~

13.10.2.6 – Engine Speed Control.**13.10.2.6.1**

An engine speed control shall be provided at the pump operator’s panel.

13.10.2.6.2

An interlock system shall be provided to prevent advancement of the engine speed at the pump operator’s panel unless the apparatus has a “~~Throttle Ready~~” “OK to Pump” indication.

13.10.2.6.3

Loss of power to the interlock system shall return the engine speed to idle and prevent advancement from the pump operator’s panel.

13.10.2.7 – Manual Override.

~~If a pump shift manual override device is provided, the “Pump Engaged,” “OK to Pump,” “OK to Pump-and-Roll,” and “Throttle Ready” indicators and the pump operator’s panel engine speed advancement interlock system shall be operationally functional when the manual override device is used to shift the pump.~~

Statement of Problem and Substantiation for Public Input

The current pump control wording is very complicated and attempts to design the system. This leads to lots of variability (automatic or manual transmissions; transmission PTO, flywheel PTO, split shaft PTO, aux motor driven, etc.) that is only getting worse as we begin to introduce electrification. This proposal retains the important aspects of the section, but shifts from a design-restrictive approach to a performance based approach.

The “Throttle Ready” indication requirement is removed because it is redundant and comes from a time before pressure governors were prevalent. In today’s world “Throttle Ready” and “OK to Pump” serve the same meaning.

Details of how the powertrain is designed are eliminated, allowing the design engineer to determine the specifics of when the powertrain is in a condition where the apparatus is “OK to Pump”.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 11:00:02 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: The existing verbiage, although complicated, is still relevant and was developed to indicate the various conditions. Even though pressure governors are prevalent on apparatus, there is no requirement for a pressure governor to be used and “Throttle Ready” should remain. Although additional solutions may be developed over time, i.e. electrification, the existing text should be maintained.

**Public Input No. 467-NFPA 1900-2025 [Section No. 13.10.2.5.3]****13.10.2.5.3***

The "Throttle Ready" indicator at the pump operator's panel shall be permitted to indicate when the parking brake is engaged and, if the apparatus is equipped with an automatic transmission, when the chassis transmission is in ~~neutral pump gear~~ .

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.

This is believed to be in error and should read "when chassis transmission is in pump gear" not "neutral".

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 17:46:33 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: Neutral is the correct transmission gear to be in. This is also shown in table 13.13.8.3.

**Public Input No. 21-NFPA 1900-2024 [Section No. 13.10.6]****13.10.6 – Protection of Pump Controls.**

~~All pump controls and devices shall be installed so as to be protected against mechanical damage and the effects of adverse weather conditions on their operation.~~

Statement of Problem and Substantiation for Public Input

The statement :installed so as to be protected against mechanical damage is not practical. Gauges, pressure governor modules, displays, would all be damaged if they were hit accidentally with a spanner. Protection against the effects of adverse weather is also not a minimum requirement. UV damage, ice storms, freezing temperatures if water is left in pumps and lines, all cannot be protected against practically without putting the pump panel inside a compartment. This can and is done, but it is not the most popular configuration today. This statement should be deleted because it is not practical, does not provide a measurable specification, and does not represent a minimum standard.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 24 16:33:24 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-340-NFPA 1900-2026](#)

Statement: The statement :installed so as to be protected against mechanical damage is not practical. Gauges, pressure governor modules, displays, would all be damaged if they were hit accidentally with a spanner. Protection against the effects of adverse weather is also not a minimum requirement. UV damage, ice storms, freezing temperatures if water is left in pumps and lines, all cannot be protected against practically without putting the pump panel inside a compartment. This can and is done, but it is not the most popular configuration today. This statement should be deleted because it is not practical, does not provide a measurable specification, and does not represent a minimum standard.

**Public Input No. 22-NFPA 1900-2024 [Section No. 13.12.1]***** 13.12.1 Pump Operator's Panel.****13.12.1.1***

The following controls and instruments shall be provided and installed as a group located on the pump operator's panel:

- (1) ~~Master pump intake~~ Pump pressure gauge
- (2) ~~Master pump discharge pressure gauge~~
- (3) ~~Pumping engine tachometer~~
- (4) ~~Pumping engine coolant temperature gauge—unless pumping engine is air-cooled or electric~~
- (5) ~~Pumping engine oil pressure gauge—unless pumping engine is electric~~
- (6) ~~Voltmeter~~
- (7) ~~Pump pressure control(s)~~
- (8) ~~Pumping engine throttle~~
- (9) ~~Primer control~~
- (10) Water-
control
- (11) Pumping engine or motor speed control
- (12) Pump primer control
- (13) Water tank-to-pump_ valve control
- (14) ~~Water tank_ fill_ valve control~~
- (15) ~~Water tank level gauge~~
- (16) CAF system isolation valve control
(
- (17) if
so-equipped)
- (18) applicable

13.12.1.2

The instruments and controls required by 13.12.1.1 shall be placed so as to keep the pump operator as far as practicable from all discharge and intake connections and in a location where the instruments and controls are visible and operationally functional while the operator remains stationary. following information when applicable shall be available at the pump operator's position

- (1) Master pump intake pressure
- (2) Master pump discharge pressure
- (3) Pump input shaft speed (rpm)
- (4) IC pump engine coolant temperature
- (5) IC pump engine high coolant temperature audible and visual alert
- (6) IC pump engine oil pressure
- (7) IC pump engine high oil pressure audible and visual alert
- (8) Apparatus low voltage value (volts)
- (9) EV battery State of Charge
- (10) Water tank fluid level

13.12.1.3

Any instrumentation exposed to the elements shall be weatherproof rated IP67 or greater.

13

*A13.12.1

.4-

~~The pumping engine oil pressure and engine coolant temperature gauges shall be equipped with audible and visual warnings.~~

~~13.12.1.5~~

~~All engine operation gauges on the pump operator's panel shall be in addition to those on the vehicle's instrument panel~~

The purchaser should consider the trade-offs in safety between the various pump control optional configurations:

Side-Mount Pump Control

Arguably the most popular configuration. The pump operator has quick access to instrumentation and controls without having to climb onto the apparatus. Controls are inherently near the driver-side discharge hose. Some operators prefer to feel the pressure in the discharge hose directly, but it does expose them to risk in the even a hose or fitting bursts. Departments selecting this configuration may consider more frequent hose testing.

Top-Mount Pump Controls

This configuration places the operator above ground level which adds the risk of climbing steps. On the other hand the operator is well above the discharge hoses, away from passing traffic, and may have a better vision of the fire ground.

Rear-Mount Pump

The rear mount pump can be controlled by levers directly on the pump. It is simple and cheap. This configuration is almost universal on European apparatus. The operator, however, is exposed to discharge hoses and any rear collision from traffic at a scene.

Remote Controls

The availability of electrically controlled valves allows the designer to place the control of the valves anywhere on or around the apparatus. A remote control can also be used, allowing the pump operator to control the pump while walking around the fire ground.

Statement of Problem and Substantiation for Public Input

The term "installed as a group" is not measurable and is therefore removed.

Controls and instrumentation is divided into their respective sections and reworded to allow the information to be displayed without specifically calling for a "gauge".

Updated to accommodate EV apparatus.

The requirement to keep the pump controls away from discharges has been in this standard for a long time, but it has never been followed on the vast majority of apparatus. The most popular configuration chosen by fire departments is the side mount pump panel with mechanical valve controls. The valve control linkages in this configuration must be installed close to the pump to make them work practically, which inherently places them close to pump discharges. Top mount pump panel configuration will move the operator out of the path of the discharge lines, but it adds its own risk, making the operator climb steps to operate the valves. Electrical valves with a remote control is another possible solution, but the added technology has not been popular because of the practical worries around losing the remote device or concern over the technology. Electric valves also add greatly to the cost of the apparatus and some are concerned with reliability. The desire to move the pump operator away from the discharges becomes a trade-off that must be weighed by the authority having jurisdiction. The requirement is not a minimum standard and should be removed from this standard. An annex item is added to help the purchaser with the trade-offs.

The statement about instruments being weatherproof was not measurable. Added IP67 rating requirement.

13.12.1.5 was not meaningful and therefore removed.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 24 16:50:03 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-346-NFPA 1900-2026](#)

Statement: The term “installed as a group” is not measurable and is therefore removed. Controls and instrumentation is divided into their respective sections and reworded to allow the information to be displayed without specifically calling for a “gauge”. Updated to accommodate EV apparatus. The requirement to keep the pump controls away from discharges has been in this standard for a long time, but it has never been followed on the vast majority of apparatus. The most popular configuration chosen by fire departments is the side mount pump panel with mechanical valve controls. The valve control linkages in this configuration must be installed close to the pump to make them work practically, which inherently places them close to pump discharges. Top mount pump panel configuration will move the operator out of the path of the discharge lines, but it adds its own risk, making the operator climb steps to operate the valves. Electrical valves with a remote control is another possible solution, but the added technology has not been popular because of the practical worries around losing the remote device or concern over the technology. Electric valves also add greatly to the cost of the apparatus and some are concerned with reliability. The desire to move the pump operator away from the discharges becomes a trade-off that must be weighed by the authority having jurisdiction. The requirement is not a minimum standard and should be removed from this standard. An annex item is added to help the purchaser with the trade-offs. The statement about instruments being weatherproof was not measurable. Added IP67 rating requirement. 13.12.1.5 was not meaningful and therefore removed.

**Public Input No. 155-NFPA 1900-2025 [Section No. 13.12.1.2]****13.12.1.2**

The instruments and controls required by 13.12.1.1 shall be placed so as to keep the pump operator as far as practicable from all discharge and intake connections and in a location where the instruments and controls are visible and ~~operationally functional~~ operable while the operator remains stationary.

Statement of Problem and Substantiation for Public Input

Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document. The controls would be operational (ready to be operated) even if they were not operable with the operator remaining stationary.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 153-NFPA 1900-2025 [Section No. 13.6.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 14:52:43 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-346-NFPA 1900-2026

Statement: The term "installed as a group" is not measurable and is therefore removed. Controls and instrumentation is divided into their respective sections and reworded to allow the information to be displayed without specifically calling for a "gauge". Updated to accommodate EV apparatus. The requirement to keep the pump controls away from discharges has been in this standard for a long time, but it has never been followed on the vast majority of apparatus. The most popular configuration chosen by fire departments is the side mount pump panel with mechanical valve controls. The valve control linkages in this configuration must be installed close to the pump to make them work practically, which inherently places them close to pump discharges. Top mount pump panel configuration will move the operator out of the path of the discharge lines, but it adds its own risk, making the operator climb steps to operate the valves. Electrical valves with a remote control is another possible solution, but the added technology has not been popular because of the practical worries around losing the remote device or concern over the technology. Electric valves also add greatly to the cost of the apparatus and some are concerned with reliability. The desire to move the pump operator away from the discharges becomes a trade-off that must be weighed by the authority having jurisdiction. The requirement is not a minimum standard and should be removed from this standard. An annex item is added to help the purchaser with the trade-offs. The statement about instruments being weatherproof was not measurable. Added IP67 rating requirement. 13.12.1.5 was not meaningful and therefore removed.



Public Input No. 23-NFPA 1900-2024 [Section No. 13.12.2]

13.12.2 Master Pump Intake and Discharge Pressure Gauges.**13.12.2.1–**

Master pump intake and pump discharge pressure gauges shall be located within 8 in

.

(200 mm) of each other, edge to edge, with the intake pressure gauge to the left of or below the pump discharge pressure gauge.

13.12.2.1.1

The intake pressure gauge shall or read from or read-out shall range from 30 in. Hg (100 kPa) vacuum to at least a gauge pressure of 300 psi (2000 kPa).

13.12.2.1.2

The discharge pressure gauge shall read from or read-out shall range from a gauge pressure of 0 psi (0 kPa) or lower to a gauge pressure of at least 300 psi (2000 kPa).

13.12.2.1.3

Pressure gauges shall measurement devices shall not be damaged by a 30 in. Hg (100 kPa) vacuum.

13.12.2.1.4

Pressure gauges shall be marked with labels that read "Pump Intake" for the intake pressure gauge and "Pump Discharge" for the discharge pressure gauge.

13.12.2.2 –

If analog gauges are used, they shall meet the requirements of 13.12.2.2.1 through 13.12.2.2.7 .

13.12.2.2.1 –

There shall be at least a 1 in. (25 mm) diameter differential in viewing area between the master gauges and the individual discharge gauges, with the master gauges being the larger.

13.12.2.2.2 –

Analog gauges displaying the vacuum portion in 120 degrees of arc or less shall have an accuracy complying with Grade 1A as defined by ASME B40.100, *Pressure Gauges and Gauge Attachments* .

13.12.2.2.3 –

Analog gauges displaying the vacuum portion in greater than 120 degrees of arc shall have an accuracy of $3^{1/2}$ percent or better on vacuum and $3^{1/2}$ percent or better on pressure over their entire respective scale.

13.12.2.2.4 –

Analog gauges displaying the vacuum portion in greater than 120 degrees of arc shall have graduation lines on the vacuum side every 1 in. Hg (5 kPa) with major and immediate graduation lines emphasized and figures at least every 10 in. Hg (50 kPa).

13.12.2.2.5 –

Numerals for master gauges shall Master pressure gauges or read-outs shall meet the following criteria:

- 1) Titled or labeled "Pump Intake" and "Pump Discharge".
- 2) Numerals shall be a minimum of 0.25 in. (6.4 mm) high.

13.12.2.2.6 –

There shall be graduation lines showing at least every 10 psi (50 kPa), with major and intermediate graduation lines emphasized and figures at least every 100 psi (500 kPa).

13.12.2.2.7 –

Analog pressure gauges shall be vibration and pressure pulsation dampened; be resistant to corrosion, condensation, and shock; and have internal mechanisms that are factory lubricated for the life of the gauge.

13.12.2.3 –

If digital master pressure gauges are used, they shall meet the requirements of 13.12.2.3.1 through 13.12.2.3.3 .

13.12.2.3.1 –

The digits shall be at least 0.5 in. (12.7 mm) high.

13.12.2.3.2 –

Digital pressure gauges shall display pressure in increments of not more than 10 psi (50 kPa) 3) Pressure values shall have an accuracy of ± 4 percent over the full scale.

- 4) Intake pressure gauge or readout shall be located to the left of or below the pump discharge pressure .

13.12.2.3.3 –

Digital master pressure gauges shall have an accuracy of ± 3 percent over the full scale.

13.12.2. 4

If the apparatus is designed for pump-and-roll operations using the chassis engine-driven pump, a second discharge pressure gauge of the type required by 13.12.2.1.2 shall be mounted in the driving compartment in view of the driver master gauges or readouts shall be visible in the driving position.

Statement of Problem and Substantiation for Public Input

This section takes 18 paragraphs to define master intake and pressure gauges or digital read-outs. Many of these specifications appear to have been defined originally to favor the designs of particular gauge manufacturers. There is so much detail concerning gradations and other items that are design restrictive. Over the years additional paragraphs were added to accommodate the use of electronic displays or read-outs. This proposed re-write extracts the essentials and focuses on performance-based specifications rather than design based. Requirements that are not safety related are loosened, and variations between the requirements for mechanical gauges and digital read-outs are eliminated (accuracy and numeral heights). If it is not a minimum standard related to safety we should allow manufacturers creativity and the free-market to prevail.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 24 18:07:48 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-345-NFPA 1900-2026

Statement: This section takes 18 paragraphs to define master intake and pressure gauges or digital read-outs. Many of these specifications appear to have been defined originally to favor the designs of particular gauge manufacturers. There is so much detail concerning gradations and other items that are design restrictive. Over the years additional paragraphs were added to accommodate the use of electronic displays or read-outs. This proposed re-write extracts the essentials and focuses on performance-based specifications rather than design based. Requirements that are not safety related are loosened, and variations between the requirements for mechanical gauges and digital read-outs are eliminated (accuracy and numeral heights). If it is not a minimum standard related to safety we should allow manufacturers creativity and the free-market to prevail.

**Public Input No. 24-NFPA 1900-2024 [Section No. 13.12.3]****13.12.3 Discharge Outlet Instrumentation.****13.12.3.1—**

~~A pressure gauge. Pressure indication shall be provided for each discharge outlet 1½ in. (38 mm) or larger in size and shall be marked with a label to indicate the outlet to which it is connected .~~

13.12.3.2*—

~~Any discharge outlet that is equipped with a flowmeter shall also be provided with a pressure gauge indication .~~

13.12.3.3—

~~The pressure gauge or flowmeter display shall be located adjacent to the corresponding valve control with no more than 6 in. (150 mm) separating the pressure gauge or flowmeter bezel and the valve control midpoint or centerline. and flow indication shall be located and labeled in conjunction with the corresponding valve control.~~

13.12.3.4—

~~If both a flowmeter and a pressure gauge are provided for an individual discharge outlet, the pressure gauges shall be located within 6 in. (150 mm) of the valve control midpoint or centerline, and the flowmeter display shall be adjacent to and within 2 in. (51 mm) of the pressure gauge bezel~~

Numerals for pressure and flow indication shall be a minimum ⅝ in. (4 mm) high .

13.12.3.5 —

Pressure

gauges

shall be

connected to

measured on the outlet side of the discharge control valve.

13.12.3.6—

~~Flowmeters shall display flow in increments no greater than 10 gpm (50 L/min).~~

13.12.3.7 —

~~Where analog pressure gauges are used, they shall have a minimum accuracy of Grade B as defined in ASME B40.100. Pressure indication shall have a minimum accuracy of ±3 percent over the full scale.~~

13.12.3.7.1 —

~~Numerals for gauges shall be a minimum ⁵/₃₂ in. (4 mm) high.~~

13.12.3.7.2 —

~~There shall be graduation lines showing at least every 10 psi (50 kPa), with major and intermediate graduation lines emphasized, and figures at least every 100 psi (500 kPa).~~

13.12.3.7.3 —

~~Analog pressure gauges shall be vibration and pressure pulsation dampened; be resistant to corrosion, condensation, and shock; and have internal mechanisms that are factory lubricated for the life of the gauge.~~

13.12.3.8

~~—~~

~~If digital pressure gauges are used, they shall meet the requirements of 13.12.3.8.1 through 13.12.3.8.3 .~~

13.12.3.8.1 —

~~The digits shall be at least ⁴/₄ in. (6.4 mm) high.~~

13.12.3.8.2 –

Digital pressure gauges shall display pressure in increments of not more than 10 psi (50 kPa

Flow shall be displayed in increments no greater than 10 gpm (50 L/min).

13.12.3.

8.3–

Digital pressure gauges shall have an accuracy of ± 3 percent over the full scale.

13.12.3.

9

–

Each flowmeter shall be calibrated to an accuracy of ± 5 percent when flowing the amount of water shown in Table 13.12.3.9 for the pipe size in which it is mounted.

Table 13.12.3.9 Flowmeter Calibration Flow for Each Pipe Size

<u>Pipe Size</u>		<u>Flow</u>		
<u>in.</u>	<u>mm</u>		<u>gpm</u>	<u>L/min</u>
1	25	-	40	150
1½	40	-	90	340
2	50	-	160	600
2½	65	-	250	950
3	80	-	375	1400
4	100	-	625	2400
5	125	-	1000	4000
6	150	-	1440	5500

Statement of Problem and Substantiation for Public Input

This proposal:

- 1) Removes design restrictive elements such as exactly how close a display needs to be to the valve control. With the variety of valve controls (push-pull, levers, wheels, electronics) a specific value is difficult to measure and not necessarily relevant. Some manufacturers create colored backgrounds to group display, gauges, and controls that make it very simply to identify the relationship between components without the need for specific distance values.
- 2) Eliminates numeral size inconsistencies between the requirements for analog and digital gauges. With the clarity of modern electronic displays there is no reason that a digital display should be required to have larger numerals than an analog gauge for instance.
- 3) Eliminates accuracy inconsistencies between the requirements for analog and digital gauges. There is no reason an analog gauge should have to be more accurate than a digital pressure indication (see below for a description of the difference between full scale accuracy that is currently applied to digital gauges and Grade B accuracy that is currently applied to analog gauges).
- 4) Re-orders the paragraphs to group first requirements common to flow and pressure, then those unique to pressure, then those unique to flow.
- 5) Replaced the term "gauge" with the term "indication" to clarify that a mechanical gauge is not necessarily required.

Full Scale Accuracy:

When choosing an analog pressure gauge, two of the most important factors to consider are accuracy and pressure range. Most analog pressure gauges express their accuracy as a percentage of the gauge's full scale. Full scale accuracy means that wherever you are reading within the scale, the error is the same. For example, a 1000 psi pressure gauge with an accuracy of ± 1 % of scale (ASME B40.100 Grade 1A) will have an error of ± 10 psi whether you measure 100 psi or 1000 psi. For these types of gauges, if your expected measurement is anywhere within the range, the error is consistent.

Grade B (± 3 -2-3 %) Accuracy:

An alternative option is one with multiple accuracy levels throughout the gauge's scale. One example of this is a Grade B (± 3 -2-3 %) gauge. Grade B accuracy divides the gauge's accuracy into three sections. The middle half of the range is the most accurate, with a maximum error of ± 2 %, while the first quarter and the last quarter of the range have a maximum error of ± 3 %. Hence, the name 3-2-3 refers to the different accuracy levels from left to the right. For example, a 1000 psi 3-2-3 pressure gauge has an accuracy of ± 30 psi from 0 to 250 psi, ± 20 psi from 251 to 750 psi, and $\pm$ from 751 to 1000 psi. Select a Grade B type gauge so that the expected measurement lies in the middle of the gauge's range to get the best accuracy and longest life out of your pressure gauge.

Related Public Inputs for This Document**Related Input**

[Public Input No. 25-NFPA 1900-2024 \[Section No. 13.12.4\]](#)

[Public Input No. 27-NFPA 1900-2024 \[Section No. 13.13.9\]](#)

Relationship**Submitter Information Verification**

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Oct 15 15:17:16 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-344-NFPA 1900-2026](#)

Statement: This proposal:

- 1) Removes design restrictive elements such as exactly how close a display needs to be to the valve control. With the variety of valve controls (push-pull, levers, wheels, electronics) a specific value is difficult to measure and not necessarily relevant. Some manufacturers create colored backgrounds to group display, gauges, and controls that make it very simply to identify the relationship between components without the need for specific distance values.
- 2) Eliminates numeral size inconsistencies between the requirements for analog and digital gauges. With the clarity of modern electronic displays there is no reason that a digital display should be required to have larger numerals than an analog gauge for instance.
- 3) Eliminates accuracy inconsistencies between the requirements for analog and digital gauges. There is no reason an analog gauge should have to be more accurate than a digital pressure indication (see below for a description of the difference between full scale accuracy that is currently applied to digital gauges and Grade B accuracy that is currently applied to analog gauges.
- 4) Re-orders the paragraphs to group first requirements common to flow and pressure, then those unique to pressure, then those unique to flow.
- 5) Replaced the term "gauge" with the term "indication" to clarify that a mechanical gauge is not necessarily required.

Full Scale Accuracy:

When choosing an analog pressure gauge, two of the most important factors to consider are accuracy and pressure range. Most analog pressure gauges express their accuracy as a percentage of the gauge's full scale. Full scale accuracy means that wherever you are reading within the scale, the error is the same. For example, a 1000 psi pressure gauge with an accuracy of $\pm 1\%$ of scale (ASME B40.100 Grade 1A) will have an error of ± 10 psi whether you measure 100 psi or 1000 psi. For these types of gauges, if your expected measurement is anywhere within the range, the error is consistent.

Grade B ($\pm 3-2-3\%$) Accuracy:

An alternative option is one with multiple accuracy levels throughout the gauge's scale. One example of this is a Grade B ($\pm 3-2-3\%$) gauge. Grade B accuracy divides the gauge's accuracy into three sections. The middle half of the range is the most accurate, with a maximum error of $\pm 2\%$, while the first quarter and the last quarter of the range have a maximum error of $\pm 3\%$. Hence, the name 3-2-3 refers to the different accuracy levels from left to the right. For example, a 1000 psi 3-2-3 pressure gauge has an accuracy of ± 30 psi from 0 to 250 psi, ± 20 psi from 251 to 750 psi, and $\pm$ from 751 to 1000 psi. Select a Grade B type gauge so that the expected measurement lies in the middle of the gauge's range to get the best accuracy and longest life out of your pressure gauge.

**Public Input No. 25-NFPA 1900-2024 [Section No. 13.12.4]****13.12.4 –**

Each pressure gauge or flowmeter and its display shall be mounted and attached so it is protected from accidental damage and excessive vibration.

Statement of Problem and Substantiation for Public Input

This specification is not measurable nor is it practicable. How do you protect any pump panel gauge or display from a firefighter accidentally stumbling and striking the gauges with a pike pole, a fire axe, or other destructive implement.

Related Public Inputs for This Document**Related Input**

Public Input No. 24-NFPA 1900-2024 [Section No. 13.12.3]

Relationship

Both deal with discharge gauges.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 15 16:26:58 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-84-NFPA 1900-2026

Statement: This specification is not measurable nor is it practicable. This could cause issues when attempting to protect any pump panel gauge or display from a firefighter accidentally stumbling and striking the gauges with a pike pole, a fire axe, or other destructive implement.

**Public Input No. 458-NFPA 1900-2025 [Section No. 13.13.2.1.2]****13.13.2.1.2***

Tests shall be performed when conditions are as follows:

- (1) Air temperature: 0°F to 110°F (-18°C to 43°C)
- (2) Water temperature: 35°F to 90°F (2°C to 32°C)
- (3) Barometric pressure: 29 in. Hg (98.2 kPa), minimum (corrected to sea level)
- (4)* Minimum lift: 3 ft (1 m) from center of pump intake to the surface of the water or the equivalent pump suction intake vacuum reading of at least 5.3 in Hg while flowing at pump rated capacity.

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.

Revise item (4) in section 13.13.2.1.2 to allow for equivalent pump suction intake vacuum.

Manufacturers will often times use equivalent pump suction intake vacuum when a 3 ft lift is not available.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 461-NFPA 1900-2025 [Section No. 15.13.2.1.2]	

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 17:01:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-312-NFPA 1900-2026

Statement: This is a recommendation from the NFPA 1900 Pump Task Group.

Revise item (4) in section 13.13.2.1.2 to allow for equivalent pump suction intake vacuum.

Manufacturers will often times use equivalent pump suction intake vacuum when a 3 ft lift is not available.

**Public Input No. 385-NFPA 1900-2025 [Section No. 13.13.2.3.6]****13.13.2.3.6**

If the apparatus is equipped with a fire pump rated at 3000 gpm (12,000 L/min) or greater, the pump shall be subjected to a 3-hour pumping test from draft consisting of ~~2 hours~~ ^{2 1/2 hours} of continuous pumping at rated capacity at a minimum of ~~100 psi~~ ^{150 psi} (700 kPa) net pump pressure, followed by 1/2 hour of continuous pumping at 70 percent of rated capacity at a minimum of 150 psi (1000 kPa) net pump pressure ~~and 1/2 hour of continuous pumping at 50 percent of rated capacity at a minimum of 200 psi (1400 kPa) net pump pressure.~~

13.13.2.3.6.1

The pump shall not be stopped until after the ~~2~~ ^{2 1/2} -hour test at rated capacity, unless it becomes necessary to clean the suction strainer.

13.13.2.3.6.2

The pump shall be permitted to be stopped between tests in order to change the hose or nozzles, clean the strainer, add fuel for the pump drive IC engine, add fuel for the fuel cell, or recharge the EV motor batteries.

13.13.2.3.6.3

The flow, discharge pressure, intake pressure, and engine speed shall be recorded at least every 15 minutes but not fewer than three times for each test sequence.

13.13.2.3.6.4

The average net pump pressure shall be calculated and recorded based on the average values for discharge and intake pressure.

Statement of Problem and Substantiation for Public Input

Part of 3000 gpm change in Public Input 384. Drop the 50% test but maintain the 3 hour total test.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 384-NFPA 1900-2025 [Sections 13.2.3, 13.2.4]	
Public Input No. 386-NFPA 1900-2025 [Section No. 13.13.4]	
Public Input No. 151-NFPA 1900-2025 [Section No. 13.13.9.1]	
Public Input No. 384-NFPA 1900-2025 [Sections 13.2.3, 13.2.4]	
Public Input No. 386-NFPA 1900-2025 [Section No. 13.13.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Sat Jul 19 15:13:37 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-343-NFPA 1900-2026](#)

Statement: This change is part of 3000 gpm change in Public Input 384 dealing with the accuracy of pump discharge rates. Drop the 50% test but maintain the 3 hour total test.

**Public Input No. 386-NFPA 1900-2025 [Section No. 13.13.4]****13.13.4 Pressure Control System Test.****13.13.4.1**

If the pump is rated at less than 3000 gpm (12,000 L/min), the pressure control system on the pump shall be tested as follows:

- (1) The pump shall be operated at draft, delivering rated capacity at a discharge gauge pressure of 150 psi (1000 kPa).
- (2) The pressure control system shall be set in accordance with the manufacturer's instructions to maintain the discharge gauge pressure at 150 psi (1000 kPa) $\pm$ 5 percent.
- (3) All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.
- (4) The rise in discharge pressure shall not exceed 30 psi (200 kPa) and shall be recorded.
- (5) The original conditions of pumping rated capacity at a discharge gauge pressure of 150 psi (1000 kPa) shall be re-established.
- (6) The discharge pressure gauge shall be reduced to 90 psi (620 kPa) by reducing the engine speed, with no change to the discharge valve settings, hose, or nozzles.
- (7) The pressure control system shall be set according to the manufacturer's instructions to maintain the discharge gauge pressure at 90 psi (620 kPa) $\pm$ 5 percent.
- (8) All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.
- (9) The rise in discharge pressure shall not exceed 30 psi (200 kPa) and shall be recorded.
- (10) The pump shall be operated at draft, pumping 50 percent of rated capacity at a discharge gauge pressure of 250 psi (1700 kPa).
- (11) The pressure control system shall be set in accordance with the manufacturer's instructions to maintain the discharge gauge pressure at 250 psi (1700 kPa) $\pm$ 5 percent.
- (12) All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.
- (13) The rise in discharge pressure shall not exceed 30 psi (200 kPa) and shall be recorded.

13.13.4.2

If the pumping system is rated at 3000 gpm (12,000 L/min) or greater, the pressure control system on the pump shall be tested as follows:

- ~~(1) The pump shall be operated at draft, delivering rated capacity at a discharge gauge pressure of 100 psi (700 kPa).~~
- ~~(2) The pressure control system shall be set in accordance with the manufacturer's instructions to maintain the discharge gauge pressure at 100 psi (700 kPa) $\pm$ 5 percent.~~
- ~~(3) All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.~~
- ~~(4) The rise in discharge pressure shall not exceed 30 psi (200 kPa) and shall be recorded.~~
- ~~(5) The pump shall be operated at draft, pumping 50 percent of rated capacity at a discharge gauge pressure of 200 psi (1400 kPa).~~
- ~~(6) The pressure control system shall be set in accordance with the manufacturer's instructions to maintain the discharge gauge pressure at 200 psi (1400 kPa) $\pm$ 5 percent.~~
- ~~(7) All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.~~
- ~~(8) The rise in discharge pressure shall not exceed 30 psi (200 kPa) and shall be recorded.~~

using steps (1) through (9) above.

Statement of Problem and Substantiation for Public Input

Part of 3000 gpm change in Public Input 384.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 384-NFPA 1900-2025 [Sections 13.2.3, 13.2.4]	
Public Input No. 385-NFPA 1900-2025 [Section No. 13.13.2.3.6]	
Public Input No. 151-NFPA 1900-2025 [Section No. 13.13.9.1]	
Public Input No. 384-NFPA 1900-2025 [Sections 13.2.3, 13.2.4]	
Public Input No. 385-NFPA 1900-2025 [Section No. 13.13.2.3.6]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jul 19 15:21:31 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-342-NFPA 1900-2026](#)

Statement: This change is related to the 3000 gpm change that is being done for document consistency and the testing of the capacities of pumps.

**Public Input No. 163-NFPA 1900-2025 [Section No. 13.13.7.1]****13.13.7.1**

A water tank-to-pump flow test shall be conducted as follows:

- (1) The water tank shall be filled until it overflows.
- (2) All intakes to the pump shall be closed.
- (3) The tank fill line and bypass cooling line shall be closed.
- (4) A hose line(s) and nozzle(s) for discharging water at the rated tank-to-pump flow rate, as defined in 17.3.2, shall be connected to one or more discharge outlets.
- (5) The tank-to-pump valve(s) and the discharge valve(s) leading to the hose line(s) and nozzle(s) shall be fully opened.
- (6) The engine speed shall be adjusted until the required flow rate $-0/+5$ percent is established (*see 17.3.2*).
- (7) The discharge pressure shall be recorded.
- (8) The discharge valves shall be closed and the water tank refilled.
- (9) The bypass cooling line shall be permitted to be opened temporarily, if needed, to keep the water temperature in the pump within acceptable limits.
- (10) The discharge valves shall be fully reopened and the time noted.
- (11) If necessary, the engine speed shall be adjusted to maintain the discharge pressure recorded as noted in 13.13.7.1(7).
- (12) When the discharge pressure drops by 10 psi (70 kPa) or more, the time shall be noted and the elapsed time from the opening of the discharge valves shall be calculated and recorded.

Statement of Problem and Substantiation for Public Input

Reading the existing text, it is not clear what this value is or where to find it.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 164-NFPA 1900-2025 [Section No. 15.13.7.1]	
Public Input No. 164-NFPA 1900-2025 [Section No. 15.13.7.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 16:27:15 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-313-NFPA 1900-2026

Statement: Reading the existing text, it is not clear what this value is or where to find it.



Public Input No. 165-NFPA 1900-2025 [Section No. 13.13.8]

13.13.8* Engine Speed Advancement Interlock Test.

The engine speed advancement interlock system shall be tested to verify that engine speed cannot be increased at the pump operator's panel unless the proper conditions are met.

13.13.8.1

If the apparatus is equipped with a pump driven through a split shaft PTO, the test shall verify that for each of the conditions specified in the first four columns of Table 13.13.8.1, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.1 Pump Driven Through Split Shaft PTO

Test Conditions				Verifications			
Transmission Type	Chassis Transmission Gear Selected	Parking Brake Status	Pump Shift Control Action Status (Driving Compartment)^a	Pump Indicator Status (Driving Compartment)	Pump Indicator Status (Pump Operator's Panel)	Engine Speed Control in Cab	Engine Speed Control at Pump Operator's Panel
^h Either	Neutral ^b	On	Road	None	None ^c	Yes	No ^c
^h Either	Neutral ^b	On	Road	None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Either	Neutral ^b	Off	Road	None	None	Yes	No
^h Automatic	Neutral	On	Engaged	"Pump Engaged" ^e	None ^c	Yes	No ^c
^h Automatic	Neutral	On	Engaged	"Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Automatic	Neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Automatic	Pump gear ^f	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	On	Road	None	None	Yes	No
Automatic	Pump gear ^f	Off	Road	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	On	Road	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Off	Road	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	On	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Manual	Any gear or neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Manual	Any gear or neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No

^aRefers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bA manual transmission can be in any gear or neutral.

^cEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^dSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^eSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^fThe chassis transmission shift selector is placed in position for pumping as indicated on the label provided in the driving compartment.

^gThe chassis transmission shift selector is placed in some position other than neutral or the position for pumping as indicated on the label provided in the driving compartment.

^h Only one of each pair of these lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

13.13.8.2

If the apparatus is equipped with a pump driven through a transmission-mounted PTO, front-of-engine crankshaft PTO, or engine flywheel PTO that is designed for stationary pumping only, the test shall verify that for each of the conditions specified in the first four columns of Table 13.13.8.2, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.2 Pump Driven Through Transmission-Mounted PTO, Front-of-Engine Crankshaft PTO, or Engine Flywheel PTO Designed for Stationary Pumping Only

<u>Test Conditions</u>				<u>Verifications</u>			
<u>Transmission Type</u>	<u>Chassis Transmission Gear Selected</u>	<u>Parking Brake Status</u>	<u>Pump Shift Control Action Status (Driving Compartment)^a</u>	<u>Indicator Status (Driving Compartment)</u>	<u>Indicator Status (Pump Operator's Panel)</u>	<u>Engine Speed Control in Cab</u>	<u>Engine Speed Control at Pump Operator's Panel</u>
^f Either	Neutral ^b	On	Disengaged	None	None ^c	Yes	No ^c
^f Either	Neutral ^b	On	Disengaged	None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Either	Neutral ^b	Off	Disengaged	None	None	Yes	No
Automatic	Neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Automatic	Neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral	On	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral	On	Disengaged	None	None	Yes	No
Automatic	Any gear other than neutral	Off	Disengaged	None	None	Yes	No
Manual	Any gear or neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Manual	Any gear or neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No

^aRefers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bA manual transmission can be in any gear or neutral.

^cEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^dSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^eSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^f Only one of this pair of lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

13.13.8.3

If the apparatus is equipped with a pump driven by the chassis engine designed for both stationary pumping and pump-and-roll, the test shall verify that for each of the conditions specified in the first four columns of Table 13.13.8.3, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.3 Stationary Pumping and Pump-and-Roll

Test Conditions				Verifications			
Transmission Type	Chassis Transmission Gear Selected	Parking Brake Status	Pump Shift Control Action Status (Driving Compartment)^a	Indicator Status (Driving Compartment)^b	Indicator Status (Pump Operator's Panel)	Engine Speed Control in Cab	Engine Speed Control at Pump Operator's Panel
9 Either	Neutral ^c	On	Disengaged	None	None ^d	Yes	No ^d
9 Either	Neutral ^c	On	Disengaged	None	"Throttle Ready" ^d	Yes or No ^e	Yes ^d
Either	Neutral ^c	Off	Disengaged	None	None	Yes	No
Automatic	Neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^e	Yes
Automatic	Neutral	Off	Engaged	"Pump Engaged" and "OK to Pump-and-Roll" ^f	None	Yes	No
Automatic	Any gear other than neutral	On	Engaged	"Pump Engaged" ^b	None	Yes	No
Automatic	Any gear other than neutral	Off	Engaged	"Pump Engaged" and "OK to Pump-and-Roll"	None	Yes	No
Automatic	Any gear other than neutral	On	Disengaged	None	None	Yes	No
Automatic	Any gear other than neutral	Off	Disengaged	None	None	Yes	No
Manual	Any gear or neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^e	Yes
Manual	Any gear or neutral	Off	Engaged	"Pump Engaged" and "OK to Pump-and-Roll"	None	Yes	No

^aRefers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^cA manual transmission can be in any gear or neutral.

^dEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^eSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^f"OK to Pump-and-Roll" stays on in neutral to allow shifting to neutral when temporarily stopped with the foot brake applied. This allows additional throttle to be applied for greater pump speed. Do not shift to neutral while the vehicle is moving; this is a prohibited operation in at least 17 states.

⁹ Only one of this pair of these lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

13.13.8.4

If the apparatus is equipped with a pump driven through a transfer case PTO or auxiliary transmission PTO designed for stationary pumping only, the test shall verify that for each of the conditions specified in the first five columns of Table 13.13.8.4, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.4 Pump Driven Through Transfer Case PTO or Auxiliary Transmission PTO Designed for Stationary Pumping Only

Test Conditions					Verifications			
<u>Transmission Type</u>	<u>Chassis Transmission Gear Selected</u>	<u>Transfer Case</u>	<u>Parking Brake Status</u>	<u>Pump Shift Control Action Status (Driving Compartment)^a</u>	<u>Indicator Status (Driving Compartment)</u>	<u>Indicator Status (Pump Operator's Panel)</u>	<u>Engine Speed Control in Cab</u>	<u>Engine Speed Control at Pump Operator's Panel</u>
^h Either	Neutral ^b	Neutral	On	Disengaged	None	None ^c	Yes	No ^c
^h Either	Neutral ^b	Engaged	On	Disengaged	None	None ^c	Yes	No ^c
^h Either	Neutral ^b	Neutral	On	Disengaged	None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
^h Either	Neutral ^b	Engaged	On	Disengaged	None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Either	Neutral ^b	Neutral	Off	Disengaged	None	None	Yes	No
Either	Neutral ^b	Engaged	Off	Disengaged	None	None	Yes	No
Automatic	Neutral	Neutral	On	Engaged	"Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Automatic	Neutral	Engaged	On	Engaged	"Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Automatic	Neutral	Neutral	Off	Engaged	"Pump Engaged" ^e	None ^c	Yes	No ^c
Automatic	Neutral	Engaged	Off	Engaged	"Pump Engaged" ^e	None ^c	Yes	No ^c
Automatic	Pump gear ^f	Neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Automatic	Pump gear ^f	Engaged	On	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	Neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	Engaged	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	Neutral	On	Disengaged	None	None	Yes	No
Automatic	Pump gear ^f	Engaged	On	Disengaged	None	None	Yes	No
Automatic	Pump gear ^f	Neutral	Off	Disengaged	None	None	Yes	No
Automatic	Pump gear ^f	Engaged	Off	Disengaged	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Neutral	On	Disengaged	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Neutral	Off	Disengaged	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Engaged	On	Disengaged	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Engaged	Off	Disengaged	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Neutral	On	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Engaged	On	Engaged	"Pump Engaged" ^e	None	Yes	No

Test Conditions					Verifications			
Transmission Type	Chassis Transmission Gear Selected	Transfer Case	Parking Brake Status	Pump Shift Control Action Status (Driving Compartment) ^a	Indicator Status (Driving Compartment)	Indicator Status (Pump Operator's Panel)	Engine Speed Control in Cab	Engine Speed Control at Pump Operator's Panel
Automatic	Any gear other than neutral and pump gear ^g	Engaged	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Manual	Any gear or neutral	Neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Manual	Any gear or neutral	Engaged	On	Engaged	"Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Manual	Any gear or neutral	Neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Manual	Any gear or neutral	Engaged	Off	Engaged	"Pump Engaged" ^e	None	Yes	No

^aRefers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bA manual transmission can be in any gear or neutral.

^cEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^dSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^eSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^fChassis transmission shift selector is placed in position for pumping as indicated on the label provided in the driving compartment.

^gChassis transmission shift selector is placed in some position other than neutral or the position for pumping as indicated on the label provided in the driving compartment.

^h Only two of these four lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

Statement of Problem and Substantiation for Public Input

In each of these tables, there are 1 or 2 lines that are not applicable to the apparatus being tested. If the tester is not aware of this, those cases will fail.

Related Public Inputs for This Document

Related Input

Public Input No. 173-NFPA 1900-2025 [Section No. 15.13.8]

Public Input No. 173-NFPA 1900-2025 [Section No. 15.13.8]

Relationship

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 16:38:29 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-336-NFPA 1900-2026

Statement: The matrix of possible test conditions was a fine idea, but it got very complicated and must be reviewed each time technology advances. With the advent of electric fire apparatus, some of which do not use a split-shaft pump, the detailed test conditions just continue to grow. Rather than attempt to anticipate all the possible future designs, this proposal simply refers to the requirements section. The technical requirements are provided in 13.10 and it is reasonable to assume that a manufacturer capable of designing the truck in accordance with those requirements is also capable of developing their own test matrix based on the unique design of their product



Public Input No. 26-NFPA 1900-2024 [Section No. 13.13.8]

13.13.8* Engine Speed Advancement Interlock Test.

The engine speed advancement interlock system shall be tested to verify that engine speed cannot be increased at the pump operator's panel unless the proper conditions are met.

13.13.8.1

If the apparatus is equipped with a pump driven through a split shaft PTO, the test shall verify that for each of the conditions specified in the first four columns of Table 13.13.8.1, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.1 Pump Driven Through Split Shaft PTO

Test Conditions Verifications Transmission Type Chassis Transmission Gear Selected Parking Brake Status Pump Shift Control Action Status (Driving Compartment) ^a Pump Indicator Status (Driving Compartment) Pump Indicator Status (Pump Operator's Panel) Engine Speed Control in Cab Engine Speed Control at Pump Operator's

Panel Either Neutral ^b On Road None None ^c Yes No ^c Either Neutral ^b On Road None "Throttle Ready" ^c Yes or

No ^d Yes ^c Either Neutral ^b Off Road None None Yes No Automatic Neutral On Engaged "Pump

Engaged" ^e None ^c Yes No ^c Automatic Neutral On Engaged "Pump Engaged" ^e "Throttle Ready" ^c Yes or

No ^d Yes ^c Automatic Neutral Off Engaged "Pump Engaged" ^e None Yes No Automatic Pump gear ^f On Engaged "Pump

Engaged" and "OK to Pump" "Throttle Ready" and "OK to Pump" Yes or No ^d Yes Automatic Pump

gear ^f Off Engaged "Pump Engaged" ^e None Yes No Automatic Pump

gear ^f On Road None None Yes No Automatic Pump gear ^f Off Road None None Yes No Automatic Any gear other than

neutral and pump gear ^g On Road None None Yes No Automatic Any gear other than neutral and pump

gear ^g Off Road None None Yes No Automatic Any gear other than neutral and pump gear ^g On Engaged "Pump

Engaged" ^e None Yes No Automatic Any gear other than neutral and pump gear ^g Off Engaged "Pump Engaged"

^e None Yes No Manual Any gear or neutral On Engaged "Pump Engaged" and "OK to Pump" "Throttle Ready" and

"OK to Pump" Yes or No ^d Yes Manual Any gear or neutral Off Engaged "Pump Engaged" ^e None Yes No

^a Refers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^b A manual transmission can be in any gear or neutral.

^c Engine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^d Some apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^e Some apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^f The chassis transmission shift selector is placed in position for pumping as indicated on the label provided in the driving compartment.

^g The chassis transmission shift selector is placed in some position other than neutral or the position for pumping as indicated on the label provided in the driving compartment.

same drivetrain is used to power both vehicle motion and stationary pumping, then the pump control shall only function when the OK to Pump indication is active and interlocked per the requirements of 13.10.

13.13.8.2

—

If the apparatus is equipped with a pump driven through a transmission-mounted PTO, front-of-engine crankshaft PTO, or engine flywheel PTO that is designed for stationary pumping only, the test shall verify that for each of the conditions specified in the first four columns of Table 13.13.8.2, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.2 Pump-Driven Through Transmission-Mounted PTO, Front-of-Engine Crankshaft PTO, or Engine Flywheel PTO Designed for Stationary Pumping Only

Test Conditions Verifications Transmission Type Chassis Transmission Gear Selected Parking Brake Status Pump Shift Control Action Status (Driving Compartment) ^a Indicator Status (Driving Compartment) Indicator Status (Pump Operator's Panel) Engine Speed Control in Cab Engine Speed Control at Pump Operator's

Panel Either Neutral ^b On Disengaged None None ^c Yes No ^c Either Neutral ^b On Disengaged None "Throttle Ready" ^c Yes or No ^d Yes ^c Either Neutral ^b Off Disengaged None None Yes No Automatic Neutral On Engaged "Pump Engaged" and "OK

to

Pump "Throttle Ready" and "OK to Pump" Yes or No ^d Yes Automatic Neutral Off Engaged "Pump

Engaged" ^e None Yes No Automatic Any gear other than neutral On Engaged "Pump

Engaged" ^e None Yes No Automatic Any gear other than neutral Off Engaged "Pump

Engaged" ^e None Yes No Automatic Any gear other than neutral On Disengaged None None Yes No Automatic Any gear other than neutral Off Disengaged None None Yes No Manual Any gear or neutral On Engaged "Pump Engaged" and "OK to Pump" "Throttle Ready" and "OK to Pump" Yes or No ^d Yes Manual Any gear or neutral Off Engaged "Pump

Engaged" ^e None Yes No

^a Refers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^b A manual transmission can be in any gear or neutral.

^c Engine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^d Some apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^e Some apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

13.13.8.3 –

If the apparatus is equipped with a pump driven by the chassis engine designed for both stationary pumping and pump-and-roll, the test shall verify that for each of the conditions specified in the first four columns of Table 13.13.8.3, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.3 Stationary Pumping and Pump-and-Roll

Test Conditions Verifications Transmission Type Chassis Transmission Gear Selected Parking Brake Status Pump Shift Control Action Status (Driving Compartment) ^a Indicator Status (Driving Compartment) ^b Indicator Status (Pump Operator's Panel) Engine Speed Control in Cab Engine Speed Control at Pump Operator's Panel Either Neutral ^c On Disengaged None None ^d Yes No ^d Either Neutral ^c On Disengaged None "Throttle Ready" ^d Yes or No ^e Yes ^d Either Neutral

^c Off Disengaged None None Yes No Automatic Neutral On Engaged "Pump Engaged" and "OK to Pump" "Throttle Ready" and "OK to Pump" Yes or No ^e Yes Automatic Neutral Off Engaged "Pump Engaged" and "OK to Pump and Roll"

^f None Yes No Automatic Any gear other than neutral On Engaged "Pump Engaged" ^b None Yes No Automatic Any gear other than neutral Off Engaged "Pump Engaged" and "OK to Pump and Roll" None Yes No Automatic Any gear other than neutral On Disengaged None None Yes No Automatic Any gear other than neutral Off Disengaged None None Yes No Manual Any gear or neutral On Engaged "Pump Engaged" and "OK to Pump" "Throttle Ready" and "OK to Pump" Yes or No ^e Yes Manual Any gear or neutral Off Engaged "Pump Engaged" and "OK to Pump and Roll" None Yes No

^a Refers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^b Some apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^c A manual transmission can be in any gear or neutral.

^d Engine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^e Some apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^f "OK to Pump and Roll" stays on in neutral to allow shifting to neutral when temporarily stopped with the foot brake applied. This allows additional throttle to be applied for greater pump speed. Do not shift to neutral while the vehicle is moving; this is a

prohibited operation in at least 17 states.

13.13.8.4 –

If the apparatus is equipped with a pump driven through a transfer case PTO or auxiliary transmission PTO designed for stationary pumping only, the test shall verify that for each of the conditions specified in the first five columns of Table 13.13.8.4, the indicators and engine speed controls operate as specified in the last four columns.

Table 13.13.8.4 Pump-Driven Through Transfer Case PTO or Auxiliary Transmission PTO Designed for Stationary Pumping Only
Test Conditions Verifications Transmission Type Chassis Transmission Gear Selected Transfer Case Parking Brake Status Pump Shift Control Action Status (Driving Compartment) ^a Indicator Status (Driving Compartment) Indicator Status (Pump Operator's Panel) Engine Speed Control in Cab Engine Speed Control at Pump Operator's

Panel Either Neutral ^b Neutral On Disengaged None None ^c Yes No

^c Either Neutral ^b Engaged On Disengaged None None ^c Yes No ^c Either Neutral ^b Neutral On Disengaged None "Throttle Ready" ^c Yes or No ^d Yes ^c Either Neutral ^b Engaged On Disengaged None "Throttle Ready" ^c Yes or No ^d Yes

^c Either Neutral ^b Neutral Off Disengaged None None Yes No Either Neutral

^b Engaged Off Disengaged None None Yes No Automatic Neutral Neutral On Engaged "Pump Engaged" ^e "Throttle Ready" ^c Yes or No ^d Yes ^c Automatic Neutral Engaged On Engaged "Pump Engaged" ^e "Throttle Ready" ^c Yes or No ^d Yes ^c Automatic Neutral Neutral Off Engaged "Pump Engaged" ^e None ^c Yes No

^c Automatic Neutral Engaged Off Engaged "Pump Engaged" ^e None ^c Yes No ^c Automatic Pump gear

^f Neutral On Engaged "Pump Engaged" and "OK to Pump" "Throttle Ready" and "OK to Pump" Yes or No

^d Yes Automatic Pump gear ^f Engaged On Engaged "Pump Engaged" ^e None Yes No Automatic Pump gear

^f Neutral Off Engaged "Pump Engaged" ^e None Yes No Automatic Pump gear ^f Engaged Off Engaged "Pump Engaged" ^e None Yes No Automatic Pump gear ^f Neutral On Disengaged None None Yes No Automatic Pump

gear ^f Engaged On Disengaged None None Yes No Automatic Pump

gear ^f Neutral Off Disengaged None None Yes No Automatic Pump

gear ^f Engaged Off Disengaged None None Yes No Automatic Any gear other than neutral and pump

gear ^g Neutral On Disengaged None None Yes No Automatic Any gear other than neutral and pump

gear ^g Neutral Off Disengaged None None Yes No Automatic Any gear other than neutral and pump

gear ^g Engaged On Disengaged None None Yes No Automatic Any gear other than neutral and pump

gear ^g Engaged Off Disengaged None None Yes No Automatic Any gear other than neutral and pump

gear ^g Neutral On Engaged "Pump Engaged" ^e None Yes No Automatic Any gear other than neutral and

pump gear ^g Neutral Off Engaged "Pump Engaged" ^e None Yes No Automatic Any gear other than

neutral and pump gear ^g Engaged On Engaged "Pump Engaged" ^e None Yes No Automatic Any gear

other than neutral and pump gear ^g Engaged Off Engaged "Pump

Engaged" ^e None Yes No Manual Any gear or neutral Neutral On Engaged "Pump Engaged" and "OK

to Pump" "Throttle Ready" and "OK to Pump" Yes or No ^d Yes Manual Any gear or

neutral Engaged On Engaged "Pump Engaged" ^e "Throttle Ready" ^c Yes or

No ^d Yes ^c Manual Any gear or neutral Neutral Off Engaged "Pump

Engaged" ^e None Yes No Manual Any gear or neutral Engaged Off Engaged "Pump

Engaged" ^e None Yes No

^a Refers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^b A manual transmission can be in any gear or neutral.

^c Engine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^d Some apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^e Some apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^f Chassis transmission shift selector is placed in position for pumping as indicated on the label provided in the driving compartment.

^g Chassis transmission shift selector is placed in some position other than neutral or the position for pumping as indicated on the label provided in the driving compartment.

and roll, then the pump and roll control at the driver station shall only function when the OK to Pump and Roll indication is active and interlocked per the requirements in 13.10.

Statement of Problem and Substantiation for Public Input

The matrix of possible test conditions was a fine idea, but it got very complicated and must be reviewed each time technology advances.

With the advent of electric fire apparatus, some of which do not use a split-shaft pump, the detailed test conditions just continue to grow. Rather than attempt to anticipate all the possible future designs, this proposal simply refers to the requirements section. The technical requirements are provided in 13.10 and it is reasonable to assume that a manufacturer capable of designing the truck in accordance with those requirements is also capable of developing their own test matrix based on the unique design of their product.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Oct 15 16:36:12 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-336-NFPA 1900-2026](#)

Statement: The matrix of possible test conditions was a fine idea, but it got very complicated and must be reviewed each time technology advances. With the advent of electric fire apparatus, some of which do not use a split-shaft pump, the detailed test conditions just continue to grow. Rather than attempt to anticipate all the possible future designs, this proposal simply refers to the requirements section. The technical requirements are provided in 13.10 and it is reasonable to assume that a manufacturer capable of designing the truck in accordance with those requirements is also capable of developing their own test matrix based on the unique design of their product

**Public Input No. 27-NFPA 1900-2024 [Section No. 13.13.9]****13.13.9 Gauge and Flowmeter Test.****13.13.9.1**

Pump intake ~~and~~ pressure gauge and all discharge pressure gauges shall be checked for ~~accuracy while operation while~~ pumping at rated capacity of the pump at 150 psi (1000 kPa) or 100 psi (700 kPa) for pumps rated 3000 gpm (12,000 L/min) or greater at 100 psi (700 kPa) .

13.13.9.2

Any gauge that is off by more than 10 psi (70 kPa) from the calibrated test gauge shall be recalibrated, repaired, or replaced.

13.13.9.3

Each flowmeter shall be checked for ~~accuracy~~ operation while pumping water at the flow listed in Table 13.12.3.9 at 100 psi (700 kPa).

13.13.9.4

Any flowmeter that is off by more than 10 percent shall be recalibrated, repaired, or replaced.

Statement of Problem and Substantiation for Public Input

- 1) This series of tests is currently listed as checking for accuracy of the gauge, but the pass/fail criteria does not match the accuracy requirements earlier in the chapter. The dial size of most discharge gauges make it unrealistic to check the accuracy demanded in the chapter, to this test is really just making sure the gauge is in the ballpark, it is not actually ensuring accuracy. The term accuracy is replaced with operation to clarify this subtlety.
- 2) The gauges are tested at 150 psi for smaller pumps and 100 psi for larger pumps, and the flow is tested at 100 psi regardless of pump size. Since this test is really just checking for operation and not accuracy, there should be no reason why we can't make the test pressure the same for all three conditions.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 24-NFPA 1900-2024 [Section No. 13.12.3]	Gauge accuracy

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Wed Oct 16 09:49:03 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-341-NFPA 1900-2026

Statement: Part of 3000 gpm change in Public Input 384.



Public Input No. 151-NFPA 1900-2025 [Section No. 13.13.9.1]

13.13.9.1

Pump intake and discharge pressure gauges shall be checked for accuracy while pumping at rated capacity of the pump at 150 psi (1000 kPa)- or 100 psi (700 kPa) for pumps rated 3000 gpm (12,000 L/min) or greater .

Statement of Problem and Substantiation for Public Input

Part of 3000 gpm change in Public Input 384.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 384-NFPA 1900-2025 [Sections 13.2.3, 13.2.4]	
Public Input No. 384-NFPA 1900-2025 [Sections 13.2.3, 13.2.4]	
Public Input No. 385-NFPA 1900-2025 [Section No. 13.13.2.3.6]	
Public Input No. 386-NFPA 1900-2025 [Section No. 13.13.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 13:48:42 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-341-NFPA 1900-2026](#)

Statement: Part of 3000 gpm change in Public Input 384.

**Public Input No. 166-NFPA 1900-2025 [Section No. 14.7.3.1]****14.7.3.1***

All discharge outlet connections shall be equipped with male National Hose threads if the apparatus is to be used in the United States ..

Statement of Problem and Substantiation for Public Input

This should be consistent with 13.7.2.1 which allows the same exception for trucks manufactured for use outside the United States.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 17:05:10 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-318-NFPA 1900-2026](#)

Statement: This should be consistent with 13.7.2.1 which allows the same exception for trucks manufactured for use outside the United States.

**Public Input No. 156-NFPA 1900-2025 [Section No. 14.9.6.2]****14.9.6.2**

The drain valve(s) shall be ~~operational~~ operable without the operator having to get under the apparatus.

Statement of Problem and Substantiation for Public Input

Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 153-NFPA 1900-2025 [Section No. 13.6.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 14:55:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-319-NFPA 1900-2026

Statement: Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.



Public Input No. 167-NFPA 1900-2025 [Section No. 15.1.1]

15.1.1

If the apparatus is equipped with a pump, the wildland fire apparatus shall include a wildland fire pump as defined in ~~Section 15.2 through 15.13.11.4.4 - this chapter~~ or a fire pump as defined in Chapter 13.

Statement of Problem and Substantiation for Public Input

The revised terminology is simpler and matches the rest of the document.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 17:09:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-320-NFPA 1900-2026](#)

Statement: The revised terminology is simpler and matches the rest of the document.



Public Input No. 168-NFPA 1900-2025 [Section No. 15.2.4.1]

15.2.4.1

The pump manufacturer shall certify that the pump can deliver its rated capacity at rated net pump pressure from draft, under the following conditions:

- (1) At an altitude of 2000 ft (600 m) above sea level
- (2) Through a single intake with 20 ft (6 m) of suction hose of the size specified in Table 15.2.4.1(a) and equipped with a suction hose strainer
- (3) With a lift of 10 ft (3 m)
- (4) At 29.9 in. Hg (101 kPa) atmospheric pressure (corrected to sea level)
- (5) At a water temperature of 60°F (16°C)
- (6) At the entrance and friction loss for the 20 ft (6 m) of suction hose and strainer listed in Table 15.2.4.1(b) or at the entrance and friction loss for the 6 m of suction hose and strainer listed in Table 15.2.4.1(c).

Table 15.2.4.1(a) Suction Hose Size by Pump Capacity Rating

Flow Rate		:	Suction Hose Size	
gpm	L/min		in.	mm
30	120	-	1½	38
50	200	-	2	52
150	600	-	2½	65
200	800	-	2½	65
250	1000	-	3	75

Table 15.2.4.1(b) Entrance and Friction Loss in 20 ft of Suction Hose, Including Strainer (United States Customary System, USCS units)

Flow Rate (gpm)	Suction Hose Size (in.)									
	1½		2		2½		3		4	
	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg	ft water	in. Hg
30	2.7	2.38	0.75	0.66	-	-	-	-	-	-
50	-	-	-	-	1.7	1.50	0.5	0.44	-	-
150	-	-	-	-	-	-	4.5	3.97	1.9	1.64
200	-	-	-	-	-	-	8.0	7.06	3.3	2.91
250	-	-	-	-	-	-	13.0	11.47	5.2	4.59

Table 15.2.4.1(c) Entrance and Friction Loss in 6 m of Suction Hose, Including Strainer (SI Units)

Flow Rate (L/min)	Suction Hose Size (mm)									
	38		52		65		75		100	
	m water	kPa	m water	kPa	m water	kPa	m water	kPa	m water	kPa
120	0.82	8.1	0.23	2.2	-	-	-	-	-	-
200	-	-	-	-	0.52	5.1	0.15	1.5	-	-
600	-	-	-	-	2.83	27.8	0.91	9.0	-	-
800	-	-	-	-	-	-	2.44	23.9	1.01	9.9
1000	-	-	-	-	-	-	3.96	38.9	1.58	15.5

Statement of Problem and Substantiation for Public Input

20 ft of suction hose applies only to Table 15.2.4.1(b) and 6 m of suction hose applies to Table 15.2.4.1(c).

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 17:14:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-321-NFPA 1900-2026](#)

Statement: 20 ft of suction hose applies only to Table 15.2.4.1(b) and 6 m of suction hose applies to Table 15.2.4.1(c).

**Public Input No. 330-NFPA 1900-2025 [Sections 15.3.1, 15.3.2, 15.3.3, 15.3.4, 15.3.5, 15.3.6]****Sections 15.3.1, 15.3.2, 15.3.3, 15.3.4, 15.3.5, 15.3.6****15.3.1–**

The apparatus manufacturer shall approve the use of the pumping engine for stationary pumping applications based on the size of the fire apparatus and the rating of the pump being furnished.

Reserved

15.3.2 Reserved.

15.3.3 Reserved.

15.3.4 – Reserved.

15.3.5 – Reserved.

15.3.6 – Reserved.

-

Statement of Problem and Substantiation for Public Input

This requirement is superfluous. The engine can not exceed its governed speed, and the pumps tests prove that the engine has sufficient power. The design engineer needs to verify that every component selected for the apparatus will do the intended job. Delete extra section numbers no longer needed.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 329-NFPA 1900-2025 [Sections 13.3.1, 13.3.2]	
Public Input No. 329-NFPA 1900-2025 [Sections 13.3.1, 13.3.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jun 30 15:50:15 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-85-NFPA 1900-2026](#)

Statement: This requirement is superfluous. The engine can not exceed its governed speed, and the pumps tests prove that the engine has sufficient power. The design engineer needs to verify that every component selected for the apparatus will do the intended job. Delete extra section numbers no longer needed.



Public Input No. 169-NFPA 1900-2025 [Section No. 15.3.10]

~~15.3.10 – Fuel and Air System.~~

~~15.3.10.1 – Diesel Engines.~~

~~15.3.10.1.1 – Air – Air Intake System.~~

~~15.3.10.1.1.1 *~~

An air filter shall be provided in the engine's air intake system.

~~15.3.10.1.1.2~~

Air inlet restrictions shall not exceed the engine manufacturer's recommendations.

~~15.3.10.1.1.3~~

For engines greater than 35 hp (26 kW), if approved by the engine manufacturer, the air inlet shall be equipped with a means of separating water and burning embers from the air intake system such that burning particulate matter larger than 0.039 in. (1.0 mm) in diameter cannot reach the air filter element.

~~15.3.10.1.2 – 11 Fuel System~~

~~15.3.11.1~~

The fuel supply lines and fuel filters shall meet the engine manufacturer's recommendations.

~~15.3.~~

~~10.1.3 – Electric Fuel Priming System~~

~~11.2 –~~

The fuel line(s) shall be located or protected so as not to be subjected to excessive heating from any portion of a vehicle exhaust system.

~~15.3.11.3 –~~

The line(s) shall be protected from mechanical damage .

~~15.3. 10.1.3.1 –~~

Where

~~11.4 – Electric Fuel Priming System.~~

For a diesel engine where an electric fuel priming system is furnished, the valving and piping shall be arranged and marked with a label so that it can be operated only to reprime the fuel system.

~~15.3.10 11 .1.3.2 – 4.1 –~~

When the electric fuel priming system is not being intentionally operated, it shall be isolated from the fuel system and inoperable.

~~15.3.10 11 .1.3.3 – 4.2 –~~

The priming system shall be marked with a label to indicate proper operation.

~~15.3.10.2 – Gasoline Engines.~~

~~15.3.10.2.1 – Air Intake System.~~

~~15.3.10.2.1.1 –~~

~~An air filter shall be provided in the engine's intake air system.~~

~~15.3.10.2.1.2 –~~

~~Air inlet restrictions shall not exceed the engine manufacturer's recommendations.~~

~~15.3.10.2.1.3 –~~

~~For engines greater than 35 hp (26 kW), if approved by the engine manufacturer, the air inlet shall be equipped with a means of separating water and burning embers from the air intake system such that burning particulate matter larger than 0.039 in. (1.0 mm) in diameter cannot reach the air filter element.~~

~~15.3.10.2.2 – Fuel System.~~

~~15.3.10.2.2.1 –~~

~~All fuel lines and all filters or strainers shall meet the engine manufacturer's recommendations.~~

~~15.3.10.2.2.2 –~~

~~The fuel line(s) shall be located or protected so as not to be subjected to excessive heating from any portion of a vehicle exhaust system.~~

~~15.3.10.2.2.3 –~~

~~The line(s) shall be protected from mechanical damage.~~

Statement of Problem and Substantiation for Public Input

Simplify text similar to restructuring of 9.2 in previous edition.
Renumbr A.15.3.10.1.1.1 to A.15.3.10.1.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 17:22:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-421-NFPA 1900-2026](#)

Statement: Simplify text similar to restructuring of 9.2 in previous edition.

**Public Input No. 170-NFPA 1900-2025 [Section No. 15.3.13.2.2]****15.3.13.2.2**

The charging system shall have an output adequate to meet the continuous anticipated electrical load of the engine and ~~starting system as manufactured~~ any connected accessories , at 200°F (93°C) operating temperature (within any engine enclosure, if applicable).

Statement of Problem and Substantiation for Public Input

The charging system must supply continuous loads connected to the engine, but not power the starting load. That is supplied by the battery that has been charged.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 17:36:01 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-322-NFPA 1900-2026](#)

Statement: The charging system must supply continuous loads connected to the engine, but not power the starting load. That is supplied by the battery that has been charged.

**Public Input No. 539-NFPA 1900-2025 [Section No. 15.6.4]****15.6.4**

Any 3 in. (76 mm) or larger intake valve except the tank-to-pump ~~valve~~ valve and intakes used for drafting shall be a slow-operating valve.

Statement of Problem and Substantiation for Public Input

Slow operating valves can cause a loss of pump prime during pump operations when throttling the valves between supplying from the tank and from draft when water sources are barely adequate but that's all you have. This should be a choice for departments and agencies that are primary wildland and rarely use hydrants or series pumping operations moving large GPMs. Annex material has been submitted to support this decision.

Submitter Information Verification

Submitter Full Name: R. J. Johnson

Organization: US Department of the Interior

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 14:29:43 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-347-NFPA 1900-2026](#)

Statement: Slow operating valves can cause a loss of pump prime during pump operations when throttling the valves between supplying from the tank and from draft when water sources are barely adequate but that's all you have. This should be a choice for departments and agencies that are primary wildland and rarely use hydrants or series pumping operations moving large GPMs. Annex material has been submitted to support this decision.

For the new annex text, Slow operating valves can cause a loss of pump prime during pump operations when throttling the valves between supplying from the tank and from draft when water sources are barely adequate but that's all you have. This should be a choice for departments and agencies that are primary wildland and rarely use hydrants or series pumping operations moving large GPMs

**Public Input No. 160-NFPA 1900-2025 [Section No. 15.6.8.4]****15.6.8.4**

Caps, plugs, or closures for ~~3 1/2 - intake connections smaller than 4 in. (90 mm 100 mm) and smaller intakes~~ shall remain secured to the apparatus or pumping unit when removed from the intakes.

Statement of Problem and Substantiation for Public Input

Make terminology consistent with other references to caps, such as 13.7.4.2, 14.6.2.3, and 14.7.4.2.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 15:13:48 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-86-NFPA 1900-2026](#)

Statement: Make terminology consistent with other references to caps, such as 13.7.4.2, 14.6.2.3, and 14.7.4.2.

**Public Input No. 162-NFPA 1900-2025 [Sections 15.7.5, 15.7.6, 15.7.7, 15.7.8]****Sections 15.7.5, 15.7.6, 15.7.7, 15.7.8****15.7.5* – Valves**

Each discharge outlet shall be equipped with a valve that can be opened and closed smoothly at the flows shown in Table 15.7.1 at pump discharge gauge pressures of 250 psi (1700 kPa) or of 100 psi (700 kPa) over the pump rated pressure, whichever is greater.

15.7.5.1

The flow-regulating element of each valve shall not change its position under any condition of operation that involves discharge pressures to the maximum pressure of the pump.

15.7.5.2

The means to prevent a change in position shall be incorporated in the operating mechanism and shall be permitted to be manually or automatically controlled.

15.7.5.3*

Any 3 in. (76 mm) or larger discharge valve shall be a slow-operating valve.

15.7.

~~6 – Reserved.~~

~~15.7.7 –~~

~~Any 2 ¹/₂ in. (65 mm) or larger discharge outlet that is located more than 42 in. (1070 mm) above the ground and to which a hose is to be connected, but that is not in a hose storage area, shall be equipped with a sweep elbow of at least 30 degrees downward.~~

~~15.7.8 – Valves.~~**~~15.7.8.1 – Reserved.~~****~~15.7.8.2 – Reserved.~~**

15.7.8.3

5.4 *

A pump cooling/recirculation line of sufficient size to prevent the pump from overheating when no discharge lines are open shall be provided between the pump discharge and the water tank.

15.7.

8

5.

3

4.1 *

The pump cooling/recirculation line shall be equipped with a strainer with cleanout and a check valve.

15.7.

8

5.

3

4.2

The apparatus shall be provided with a means to verify that the recirculating line is functioning.

15.7.

8

5.

4

5

All discharge valves 1 in. (25 mm) or over in size shall be quarter-turn types.

15.7.

8

5.

5

6

Where the valve operating mechanism does not indicate the position of the valve, an indicator shall be provided to show when the valve is closed.

15.7.

8

5.

6

7

Visible quarter-turn valves shall be installed so they are open when the handle is parallel with the run of the pipe and are closed when the handle is perpendicular to the run of the pipe.

15.7. 5. 8

7

Blind valves, which are valves behind panels, shall have their open and closed positions marked "Open" and "Closed."

15.7.

8

5.

8

9

Operating mechanisms for valves used on the fireground shall be marked as to their function, such as "Intake," "Tank to Pump," "Pump to Tank," and "Discharge."

15.7.

8

5.

9

10

If the apparatus is equipped with a booster reel, the piping, valves, and swivel between the pump and booster reel shall be nominally the same size as or larger than the nominal inside diameter of the hose to be carried on the reel.

15.7.

8

5.

9

10.1

A shutoff valve shall be provided between the pump and the reel.

15.7.

8

5.

9

10.2

High-pressure booster hose of the same nominal size shall be permitted in place of piping.

15.7.6 Reserved.

15.7.7

Any 2 1/2 in. (65 mm) or larger discharge outlet that is located more than 42 in. (1070 mm) above the ground and to which a hose is to be connected, but that is not in a hose storage area, shall be equipped with a sweep elbow of at least 30 degrees downward.

-

Statement of Problem and Substantiation for Public Input

Put all valve information under Valves heading. re-synchronize section numbers with chapter 13 after Public Input 161. No changes in requirements.

Be sure to renumber A.15.7.8.3 to A.15.7.5.4 and A.15.7.8.3.1 to A.15.7.5.4.1.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 161-NFPA 1900-2025 [Sections 13.7.5, 13.7.6, 13.7.7, 13.7.8]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 15:51:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: ER-323-NFPA 1900-2026

Statement: No technical changes were made here but the section was re-organized and re-numbered.

**Public Input No. 157-NFPA 1900-2025 [Section No. 15.8.2]****15.8.2**

The drain valve(s) shall be ~~operational~~ operable without the operator having to get under the apparatus, or a label at the operator's location shall indicate the location of drains that need to be operated from under the apparatus.

Statement of Problem and Substantiation for Public Input

Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 153-NFPA 1900-2025 [Section No. 13.6.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 14:57:07 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-324-NFPA 1900-2026](#)

Statement: Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

**Public Input No. 453-NFPA 1900-2025 [Section No. 15.11.2]****15.11.2**

The throttle control on vertically (greater than 45 degrees) arranged pump panels shall be located not higher than ~~72 in~~ 60 in . (1680 mm) nor lower than 42 in. (1070 mm) from the operator's standing position with all instruments in full view.

Statement of Problem and Substantiation for Public Input

If the truck is positioned on rough terrain or a side slope the pump panel can easily be out of reach if it is located at 72 inches from the ground.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 16:13:50 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-87-NFPA 1900-2026](#)

Statement: If the truck is positioned on rough terrain or a side slope the pump panel can easily be out of reach if it is located at 72 inches from the ground.

**Public Input No. 454-NFPA 1900-2025 [Section No. 15.11.3]****15.11.3 –**

The throttle control on horizontally (less than 45 degrees) arranged pump panels shall be located not higher than 50 in. (1270 mm) nor lower than 32 in. (810 mm) from the operator's standing position with all instruments in full view.

Statement of Problem and Substantiation for Public Input

Wildland fire pumps are not configured this way. It just came over from 1901.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 16:16:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This requirement is still needed as it is used for sidekick style trucks. Committee believes this may have been confused as a Top-Mount in error.

**Public Input No. 171-NFPA 1900-2025 [Section No. 15.12.3.3]****15.12.3.3**

~~The~~ If a pressure gauge is provided, the pressure gauge display shall be located adjacent to the corresponding valve control with no more than 6 in. (150 mm) separating the pressure gauge bezel and the valve control midpoint or centerline.

Statement of Problem and Substantiation for Public Input

The definite article "The" assumes that the gauge exists. Since 15.12.3.1 is Reserved, the gauge is not required so it may not exist.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 17:43:05 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-325-NFPA 1900-2026](#)

Statement: The definite article "The" assumes that the gauge exists. Since 15.12.3.1 is Reserved, the gauge is not required so it may not exist.

**Public Input No. 461-NFPA 1900-2025 [Section No. 15.13.2.1.2]****15.13.2.1.2***

Tests shall be performed when conditions are as follows:

- (1) Air temperature: 0°F to 110°F (–18°C to 43°C)
- (2) Water temperature: 35°F to 90°F (2°C to 32°C)
- (3) Barometric pressure: 29 in. Hg (98.2 kPa), minimum (corrected to sea level)
- (4)* Minimum lift: 3 ft (1 m) from center of pump intake to the surface of the water or the equivalent pump suction intake vacuum reading of at least 5.3 in Hg while flowing at pump rated capacity.

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.

Revise item (4) in section 15.13.2.1.2 to allow for equivalent pump suction intake vacuum.

Manufacturers will often times use equivalent pump suction intake vacuum when a 3 ft lift is not available.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 458-NFPA 1900-2025 [Section No. 13.13.2.1.2]	

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 17:16:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-88-NFPA 1900-2026](#)

Statement: This change is to revise item (4) in section 15.13.2.1.2 to allow for equivalent pump suction intake vacuum.

Manufacturers will often times use equivalent pump suction intake vacuum when a 3 ft lift is not available.

**Public Input No. 164-NFPA 1900-2025 [Section No. 15.13.7.1]****15.13.7.1**

A water tank-to-pump flow test shall be conducted as follows:

- (1) The apparatus shall be placed on level ground and the water tank filled until it overflows.
- (2) All intakes to the pump shall be closed.
- (3) The tank fill line and bypass cooling line, if supplied, shall be closed.
- (4) A hose line(s) and nozzle(s) for discharging water at the rated tank-to-pump flow rate, as defined in 17.3.2, shall be connected to one or more discharge outlets.
- (5) The tank-to-pump valve(s) and the discharge valve(s) leading to the hose line(s) and nozzle(s) shall be fully opened.
- (6) The engine throttle shall be adjusted until the required flow rate, -0 +5 percent, is established.
- (7) The discharge pressure shall be recorded.
- (8) The discharge valves shall be closed and the water tank refilled.
- (9) The bypass cooling line shall be permitted to be opened temporarily, if needed, to keep the water temperature in the pump within acceptable limits.
- (10) The discharge valves shall be fully reopened and the time noted.
- (11) If necessary, the engine throttle shall be adjusted to maintain the discharge pressure recorded as noted in 15.13.7.1(7).
- (12) When the discharge pressure drops by 10 psi (70 kPa) or more, the time shall be noted and the elapsed time from the opening of the discharge valves shall be calculated and recorded.

Statement of Problem and Substantiation for Public Input

Reading the existing text, it is not clear what this value is or where to find it.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 163-NFPA 1900-2025 [Section No. 13.13.7.1]	
Public Input No. 163-NFPA 1900-2025 [Section No. 13.13.7.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 14 16:31:01 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-326-NFPA 1900-2026

Statement: Reading the existing text, it is not clear what this value is or where to find it.

**Public Input No. 172-NFPA 1900-2025 [Section No. 15.13.7.1]****15.13.7.1**

A water tank-to-pump flow test shall be conducted as follows:

- (1) The apparatus shall be placed on level ground and the water tank filled until it overflows.
- (2) All intakes to the pump shall be closed.
- (3) The tank fill line and bypass cooling line, if supplied, shall be closed.
- (4) A hose line(s) and nozzle(s) for discharging water at the rated tank-to-pump flow rate shall be connected to one or more discharge outlets.
- (5) The tank-to-pump valve(s) and the discharge valve(s) leading to the hose line(s) and nozzle(s) shall be fully opened.
- (6) The engine throttle shall be adjusted until the required flow rate, $-0 - 0 +5$ percent, is established.
- (7) The discharge pressure shall be recorded.
- (8) The discharge valves shall be closed and the water tank refilled.
- (9) The bypass cooling line shall be permitted to be opened temporarily, if needed, to keep the water temperature in the pump within acceptable limits.
- (10) The discharge valves shall be fully reopened and the time noted.
- (11) If necessary, the engine throttle shall be adjusted to maintain the discharge pressure recorded as noted in 15.13.7.1(7).
- (12) When the discharge pressure drops by 10 psi (70 kPa) or more, the time shall be noted and the elapsed time from the opening of the discharge valves shall be calculated and recorded.

Statement of Problem and Substantiation for Public Input

The existing printed typography printed the - as an invalid character symbol.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 17:46:28 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is only an issue in the printed version and not with Terra and no correction needs to be made in Terra.



Public Input No. 173-NFPA 1900-2025 [Section No. 15.13.8]

15.13.8* Engine Speed Advancement Interlock Test.

If the pump is driven by the chassis engine, the engine speed advancement interlock system shall be tested to verify that engine speed cannot be increased at the pump operator's panel unless the proper conditions are met.

15.13.8.1

If the apparatus is equipped with a pump driven through split-shaft PTO, the test shall verify that for each of the conditions specified in the first four columns of Table 15.13.8.1, the indicators and engine speed controls operate as specified in the last four columns.

Table 15.13.8.1 Pump Driven Through Split- Shaft PTO

<u>Test Conditions</u>				<u>Verifications</u>			
<u>Transmission Type</u>	<u>Chassis Transmission Gear Selected</u>	<u>Parking Brake Status</u>	<u>Pump Shift Control Action Status (Driving Compartment)^a</u>	<u>Pump Indicator Status (Driving Compartment)</u>	<u>Pump Indicator Status (Pump Operator's Panel)</u>	<u>Engine Speed Control in Cab</u>	<u>Engine Speed Control at Pump Operator's Panel</u>
^h Either	Neutral ^b	On	Road	- None	None ^c	Yes	No ^c
^h Either	Neutral ^b	On	Road	- None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Either	Neutral ^b	Off	Road	- None	None	Yes	No
^h Automatic	Neutral	On	Engaged	- "Pump Engaged" ^e	None ^c	Yes	No ^c
^h Automatic	Neutral	On	Engaged	- "Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Automatic	Neutral	Off	Engaged	- "Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	On	Engaged	- "Pump Engaged" ^e and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Automatic	Pump gear ^f	Off	Engaged	- "Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	On	Road	- None	None	Yes	No
Automatic	Pump gear ^f	Off	Road	- None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	On	Road	- None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Off	Road	- None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	On	Engaged	- "Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Off	Engaged	- "Pump Engaged" ^e	None	Yes	No
Manual	Any gear or neutral	On	Engaged	- "Pump Engaged" ^e and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Manual	Any gear or neutral	Off	Engaged	- "Pump Engaged" ^e	None	Yes	No

^aRefers to the physical position of the pump shift control, (or status of an electrical control action), in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bA manual transmission can be in any gear or neutral.

^cEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^dSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^eSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^fThe chassis transmission shift selector is placed in position for pumping as indicated on the label provided in the driving compartment.

^gThe chassis transmission shift selector is placed in some position other than neutral or the position for pumping as indicated on the label provided in the driving compartment.

^h Only one of each pair of these lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

15.13.8.2

If the apparatus is equipped with a pump driven through a transmission-mounted PTO, front-of-engine crankshaft PTO, or engine flywheel PTO, that is designed for stationary pumping only the test shall verify that for each of the conditions specified in the first four columns of Table 15.13.8.2, the indicators and engine speed controls operate as specified in the last four columns.

Table 15.13.8.2 Pump Driven Through Transmission-Mounted PTO, Front-of-Engine Crankshaft PTO, or Engine Flywheel PTO Designed for Stationary Pumping Only

<u>Test Conditions</u>				-	<u>Verifications</u>			
<u>Transmission Type</u>	<u>Chassis Transmission Gear Selected</u>	<u>Parking Brake Status</u>	<u>Pump Shift Control Action Status (Driving Compartment)^a</u>	-	<u>Indicator Status (Driving Compartment)</u>	<u>Indicator Status (Pump Operator's Panel)</u>	<u>Engine Speed Control in Cab</u>	<u>Engine Speed Control at Pump Operator's Panel</u>
^f Either	Neutral ^b	On	Disengaged	-	None	None ^c	Yes	No ^c
^f Either	Neutral ^b	On	Disengaged	-	None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Either	Neutral ^b	Off	Disengaged	-	None	None	Yes	No
Automatic	Neutral	On	Engaged	-	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Automatic	Neutral	Off	Engaged	-	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral	On	Engaged	-	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral	Off	Engaged	-	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral	On	Disengaged	-	None	None	Yes	No
Automatic	Any gear other than neutral	Off	Disengaged	-	None	None	Yes	No
Manual	Any gear or neutral	On	Engaged	-	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Manual	Any gear or neutral	Off	Engaged	-	"Pump Engaged" ^e	None	Yes	No

^aRefers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bA manual transmission can be in any gear or neutral.

^cEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^dSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^eSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^f Only one of this pair of lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

15.13.8.3

If the apparatus is equipped with a pump driven by the chassis engine designed for both stationary pumping and pump-and-roll, the test shall verify that for each of the conditions specified in the first four columns of Table 15.13.8.3, the indicators and engine speed controls operate as specified in the last four columns.

Table 15.13.8.3 Stationary Pumping and Pump-and-Roll

<u>Test Conditions</u>				<u>Verifications</u>			
<u>Transmission Type</u>	<u>Chassis Transmission Gear Selected</u>	<u>Parking Brake Status</u>	<u>Pump Shift Control Action Status (Driving Compartment)^a</u>	<u>Indicator Status (Driving Compartment)^b</u>	<u>Indicator Status (Pump Operator's Panel)</u>	<u>Engine Speed Control in Cab</u>	<u>Engine Speed Control at Pump Operator's Panel</u>
9 Either	Neutral ^c	On	Disengaged	- None	None ^d	Yes	No ^d
9 Either	Neutral ^c	On	Disengaged	- None	"Throttle Ready" ^d	Yes or No ^e	Yes ^d
Either	Neutral ^c	Off	Disengaged	- None	None	Yes	No
Automatic	Neutral	On	Engaged	- "Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^e	Yes
Automatic	Neutral	Off	Engaged	- "Pump Engaged" and "OK to Pump and Roll" ^f	None	Yes	No
Automatic	Any gear other than neutral	On	Engaged	- "Pump Engaged" ^b	None	Yes	No
Automatic	Any gear other than neutral	Off	Engaged	- "Pump Engaged" and "OK to Pump and Roll"	None	Yes	No
Automatic	Any gear other than neutral	On	Disengaged	- None	None	Yes	No
Automatic	Any gear other than neutral	Off	Disengaged	- None	None	Yes	No
Manual	Any gear or neutral	On	Engaged	- "Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^e	Yes
Manual	Any gear or neutral	Off	Engaged	- "Pump Engaged" and "OK to Pump and Roll"	None	Yes	No

^aRefers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^cA manual transmission can be in any gear or neutral.

^dEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^eSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^f"OK to Pump and Roll" stays on in neutral to allow shifting to neutral when temporarily stopped with the foot brake applied. This allows additional throttle to be applied for greater pump speed. Do not shift to neutral while the vehicle is moving; this is a prohibited operation in at least 17 states.

⁹ Only one of each pair of these lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

15.13.8.4

If the apparatus is equipped with a pump driven through transfer case PTO or auxiliary transmission PTO designed for stationary pumping only, the test shall verify that for each of the conditions specified in the first five columns of Table 15.13.8.4, the indicators and engine speed controls operate as specified in the last four columns.

Table 15.13.8.4 Pump Driven Through Transfer Case PTO or Auxiliary Transmission PTO Designed for Stationary Pumping Only

<u>Test Conditions</u>					<u>Verifications</u>				
<u>Transmission Type</u>	<u>Chassis Transmission Gear Selected</u>	<u>Transfer Case</u>	<u>Parking Brake Status</u>	<u>Pump Shift Control Action Status (Driving Compartment)^a</u>		<u>Indicator Status (Driving Compartment)</u>	<u>Indicator Status (Pump Operator's Panel)</u>	<u>Engine Speed Control in Cab</u>	<u>Engine Speed Control at Pump Operator's Panel</u>
^h Either	Neutral ^b	Neutral	On	Disengaged	-	None	None ^c	Yes	No ^c
^h Either	Neutral ^b	Engaged	On	Disengaged	-	None	None ^c	Yes	No ^c
^h Either	Neutral ^b	Neutral	On	Disengaged	-	None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
^h Either	Neutral ^b	Engaged	On	Disengaged	-	None	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Either	Neutral ^b	Neutral	Off	Disengaged	-	None	None	Yes	No
Either	Neutral ^b	Engaged	Off	Disengaged	-	None	None	Yes	No
Automatic	Neutral	Neutral	On	Engaged	-	"Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Automatic	Neutral	Engaged	On	Engaged	-	"Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Automatic	Neutral	Neutral	Off	Engaged	-	"Pump Engaged" ^e	None ^c	Yes	No ^c
Automatic	Neutral	Engaged	Off	Engaged	-	"Pump Engaged" ^e	None ^c	Yes	No ^c
Automatic	Pump gear ^f	Neutral	On	Engaged	-	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Automatic	Pump gear ^f	Engaged	On	Engaged	-	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	Neutral	Off	Engaged	-	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	Engaged	Off	Engaged	-	"Pump Engaged" ^e	None	Yes	No
Automatic	Pump gear ^f	Neutral	On	Disengaged	-	None	None	Yes	No
Automatic	Pump gear ^f	Engaged	On	Disengaged	-	None	None	Yes	No
Automatic	Pump gear ^f	Neutral	Off	Disengaged	-	None	None	Yes	No
Automatic	Pump gear ^f	Engaged	Off	Disengaged	-	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Neutral	On	Disengaged	-	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Neutral	Off	Disengaged	-	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Engaged	On	Disengaged	-	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Engaged	Off	Disengaged	-	None	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Neutral	On	Engaged	-	"Pump Engaged" ^e	None	Yes	No

Test Conditions					Verifications			
Transmission Type	Chassis Transmission Gear Selected	Transfer Case	Parking Brake Status	Pump Shift Control Action Status (Driving Compartment) ^a	Indicator Status (Driving Compartment)	Indicator Status (Pump Operator's Panel)	Engine Speed Control in Cab	Engine Speed Control at Pump Operator's Panel
Automatic	Any gear other than neutral and pump gear ^g	Neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Engaged	On	Engaged	"Pump Engaged" ^e	None	Yes	No
Automatic	Any gear other than neutral and pump gear ^g	Engaged	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Manual	Any gear or neutral	Neutral	On	Engaged	"Pump Engaged" and "OK to Pump"	"Throttle Ready" and "OK to Pump"	Yes or No ^d	Yes
Manual	Any gear or neutral	Engaged	On	Engaged	"Pump Engaged" ^e	"Throttle Ready" ^c	Yes or No ^d	Yes ^c
Manual	Any gear or neutral	Neutral	Off	Engaged	"Pump Engaged" ^e	None	Yes	No
Manual	Any gear or neutral	Engaged	Off	Engaged	"Pump Engaged" ^e	None	Yes	No

^aRefers to the physical position of the pump shift control, or status of an electrical control action, in the driving compartment. The indicators associated with a particular pump shift control position might or might not provide indication of a particular status.

^bA manual transmission can be in any gear or neutral.

^cEngine speed control at the pump operator's panel is permitted for those apparatus that have "Throttle Ready" indication on the pump operator's panel when the chassis transmission is in neutral and the parking brake is engaged. If there is no "Throttle Ready" indication, there is no engine speed control at the pump operator's panel.

^dSome apparatus can be designed such that the throttle in the cab is disabled when the throttle control on the pump panel is enabled. The preferred arrangement is that the throttle in the cab not be disabled when the throttle control on the pump operator's panel is enabled.

^eSome apparatus can be designed with additional interlocks that prevent pump engagement and the "Pump Engaged" indicator, or disengage the pump when additional interlock conditions are not met.

^fChassis transmission shift selector is placed in position for pumping as indicated on the label provided in the driving compartment.

^gChassis transmission shift selector is placed in some position other than neutral or the position for pumping as indicated on the label provided in the driving compartment.

^h Only two of these four lines is applicable, depending on whether the apparatus design provides Throttle Ready indication when the chassis transmission is in neutral and the parking brake is on.

Statement of Problem and Substantiation for Public Input

In each of these tables, there are 1 or 2 lines that are not applicable to the apparatus being tested. If the tester is not aware of this, those cases will fail.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 165-NFPA 1900-2025 [Section No. 13.13.8]	
Public Input No. 165-NFPA 1900-2025 [Section No. 13.13.8]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Street Address:
City:

State:

Zip:

Submittal Date: Wed May 14 17:49:13 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-420-NFPA 1900-2026](#)

Statement: These changes are being made in order to eliminate redundancy and to be consistent with changes made to chapter 13.

**Public Input No. 174-NFPA 1900-2025 [Section No. 15.13.11.4.4]****15.13.11.4.4**

The water tank empty truck weight shall be subtracted from water tank full truck weight, and the result divided by 8.33 lb/gal to obtain the usable water volume in gallons.

Statement of Problem and Substantiation for Public Input

The truck is weighed, not just the tank.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 17:56:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-327-NFPA 1900-2026](#)

Statement: The truck is weighed, not just the tank.

**Public Input No. 438-NFPA 1900-2025 [Section No. 16.7.2]****16.7.2**

All gauges, instruments, and controls located on the ultra-high pressure fire pump operator's panel shall be illuminated to a minimum lighting level of 5 fc (54 lx) in compliance with 7.11.1.

Statement of Problem and Substantiation for Public Input

Sections 13.9.2 (Fire Pumps and Associated Equipment) and 14.8.2 (Auxiliary Pumps and Associated Equipment) both refer to 7.11.1 for illumination requirements. Section 16.7.2 (Ultra-High Pressure Fire Pumps and Associated Equipment) should refer to Section 7.11.1 as well instead of the unique requirement of 5 fc (54 lx). Change should be made to keep all sections in alignment.

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Aug 26 16:40:38 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-89-NFPA 1900-2026

Statement: Sections 13.9.2 (Fire Pumps and Associated Equipment) and 14.8.2 (Auxiliary Pumps and Associated Equipment) both refer to 7.11.1 for illumination requirements. Section 16.7.2 (Ultra-High Pressure Fire Pumps and Associated Equipment) should refer to Section 7.11.1 as well instead of the unique requirement of 5 fc (54 lx). This change is being made to keep all sections in alignment.

**Public Input No. 158-NFPA 1900-2025 [Section No. 16.8.5.2]****16.8.5.2**

The drain valve(s) shall be ~~operational~~ operable without the operator having to get under the apparatus.

Statement of Problem and Substantiation for Public Input

Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 153-NFPA 1900-2025 [Section No. 13.6.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 14 14:58:47 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-330-NFPA 1900-2026

Statement: Operational is the wrong word here. Operational is "in or ready to be in operation" while Operable is "able to be operated." These words are both used correctly elsewhere in the document.

**Public Input No. 589-NFPA 1900-2025 [New Section after 16.10]****TITLE OF NEW CONTENT**

Type your content here ...

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Holds_PC387.pdf	1900_PCno.387	

Statement of Problem and Substantiation for Public Input

NOTE: This Public Input appeared as "Reject but Hold" in Public Comment No. 387 of the (2022) Second Draft Report for NFPA 1900 and per the Regs. at 4.4.8.3.1 and needs to be reconsidered by the TC for the next edition of the document.

Submitter Information Verification**Submitter Full Name:** NFPA Holds**Organization:** Holds**Street Address:****City:****State:****Zip:****Submission Date:** Thu Sep 04 17:12:09 EDT 2025**Committee:** FDA-AAA**Committee Statement****Resolution:** Scene lighting is not required on the apparatus and therefore a measurement is not applicable.

**Public Input No. 177-NFPA 1900-2025 [Section No. 16.12.13.4.4]****16.12.13.4.4**

The water tank empty truck weight shall be subtracted from water tank full truck weight and the result divided by 8.33 lb/gal to obtain the usable water volume in gallons.

Statement of Problem and Substantiation for Public Input

It is the truck that gets weighed, not the tank.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 15 14:22:49 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-331-NFPA 1900-2026](#)

Statement: It is the truck that gets weighed, not the tank.

**Public Input No. 459-NFPA 1900-2025 [Section No. 17.4.2.2.1]****17.4.2.2.1***

On structural fire apparatus, the vent/overflow outlet shall be designed to direct any water to behind the rear axle- ~~so as not to interfere with rear tire traction .~~

Statement of Problem and Substantiation for Public Input

This isn't a requirement. If rational is needed this could be annex material

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 17:12:09 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-332-NFPA 1900-2026](#)

Statement: This text is being removed as the committee believes that it isn't a requirement.

**Public Input No. 460-NFPA 1900-2025 [Section No. 17.4.2.2.2]****17.4.2.2.2**

On wildland fire apparatus, the tank vent/overflow pipe shall be positioned to discharge any liquid overflow ~~not less than 12 in. (30.5 cm) behind the centerline of the rear axle directly to the ground .~~

Statement of Problem and Substantiation for Public Input

Limitations due to chassis configuration make the 12" requirement behind the rear axle difficult to achieve. In reality as long as the water is discharged with a clear path to the ground, it is sufficient. It is more important that the water goes to the ground rather than on top of the axle housing or fuel tank or other chassis components compared to the concern about loss of rear tire traction.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 17:15:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-333-NFPA 1900-2026](#)

Statement: Limitations due to chassis configuration make the 12" requirement behind the rear axle difficult to achieve. In reality as long as the water is discharged with a clear path to the ground, it is sufficient. It is more important that the water goes to the ground rather than on top of the axle housing or fuel tank or other chassis components compared to the concern about loss of rear tire traction.

**Public Input No. 462-NFPA 1900-2025 [Section No. 17.5.1 [Excluding any Sub-Sections]]**

~~An~~ On Structural Fire apparatus an external fill connection leading directly to the tank shall be provided.

On Wildland Fire mobile water supply apparatus, the tank fill shall be constructed and plumbed in such a way to achieve an air gap between the maximum water height and the termination of the tank fill.

Mechanical backflow prevention device shall not be accepted.

Statement of Problem and Substantiation for Public Input

The air gap prevents potential backflow of the tank water into the hydrant for wildland fire apparatus.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 17:18:06 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is minimum standard and is trying to solve a specific problem for one area. Other solutions exist and we shouldn't exclude them.

**Public Input No. 464-NFPA 1900-2025 [Section No. 18.6.7.1]****18.6.7.1**

A minimum ~~1 in~~ 3/4 in . (25 mm 19 mm) inside diameter full flow drain valve and piping shall be provided at the lowest point of any foam concentrate tank.

Statement of Problem and Substantiation for Public Input

3/4 inch is an adequate minimum diameter for emptying the foam concentration tank. On a wildland fire apparatus the foam tank is only 7 to 12 gallons. For larger apparatus with a larger concentration tank can specify a larger diameter, if they would like.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 17:22:19 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-348-NFPA 1900-2026](#)

Statement: The committee made these changes as the current text could be design restrictive. The newly added annex material provides additional guidance for the end user.

**Public Input No. 77-NFPA 1900-2025 [Section No. 18.6.7.1]****18.6.7.1**

A minimum ~~1 in~~ 3/4 in . (~~25 mm~~ 19 mm) inside diameter full flow drain valve and piping shall be provided at the lowest point of any foam concentrate tank.

Statement of Problem and Substantiation for Public Input

3/4 inch is a sufficient diameter for draining a foam tank.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Apr 30 11:18:41 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-348-NFPA 1900-2026](#)

Statement: The committee made these changes as the current text could be design restrictive. The newly added annex material provides additional guidance for the end user.

**Public Input No. 178-NFPA 1900-2025 [Section No. 18.6.12]****18.6.12*– Foam Tank Inlet. ~~Refill System.~~**

If the foam system includes a foam concentrate pump not driven by discharge water flow, or if requested by the purchaser, a foam tank refill system shall be provided that does not require the operator to climb on the truck to refill the foam concentrate tank.

18.6.12.1

A minimum 0.75 in. (20 mm) inside-diameter full-flow inlet valve and piping shall be provided to any the foam concentrate tank inlet .

18.6.12.2

The foam concentrate tank inlet connection shall discharge to the bottom of the tank and prevent aeration of the foam concentrate under all operating conditions.

18.6.12.3

A valved intake with a strainer shall be provided to draw foam from an external container.

18.6.12.4

The intake shall be provided with a cap or plug.

Statement of Problem and Substantiation for Public Input

If the foam system already includes an electric foam concentrate pump, there is very little additional cost to allow the pump to refill the foam concentrate tank. This is a major safety feature so firefighters do not have to climb to the top of the truck with foam pails that are heavy and very slippery if spilled.

If there is no foam tank refill system, there is no reason to the tank inlet currently defined.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu May 15 14:31:30 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee is addressing this with FR-401.

**Public Input No. 179-NFPA 1900-2025 [Section No. 18.11.2]****18.11.2**

The final installer shall deliver documentation with the fire apparatus declaring the foam proportioning system as installed meets the requirements of 18.10.2- ~~or~~ and 18.10.3 across the foam proportioning system manufacturer's declared range of waterflow, water pressure, foam percentage (or foam proportioning system capacity), and concentrate viscosity at the test points defined in Table 18.11.1.

Statement of Problem and Substantiation for Public Input

Many systems can produce foam at both less than and more than 1%, and thus should meet the requirements of both 18.10.2 and 18.10.3 in each range.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 15 15:01:07 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-90-NFPA 1900-2026](#)

Statement: Many systems can produce foam at both less than and more than 1%, and thus should meet the requirements of both 18.10.2 and 18.10.3 in each range.

**Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]****19.3.4**

~~If an air receiver.~~ **19.3.4.1** Air receivers or holding, surge, or separator tanks 6 in. (150 mm) nominal pipe size or less, ~~the~~ and subject to pressures not exceeding 250 psi shall comply with the requirements of this section.

19.3.4.1.1

The tank shall be subjected to a hydrostatic test to a gauge pressure of 500 psi (3400 kPa) for a minimum of 10 minutes.

19.3.4.1 – 2

The tank manufacturer shall provide a certificate of completion for the hydrostatic test.

19.3.4.2

~~For air receiver.~~ Air receivers or holding, surge, or separator tanks larger than 6 in. (150 mm) nominal pipe size, ~~the tank shall or~~ subject to pressures greater than 250 psi shall meet one of the following:

(1) be designed, fabricated, and stamped in accordance with the requirements of the ASME *Boiler and Pressure Vessel Code*, Section VIII, Division 1, for the maximum working pressure.

19.3.4.3

~~Transportable air tanks shall.~~ (2) comply with 49 CFR 178.37, "Specification 3AA and 3AAX seamless steel cylinders".

(3) comply with UN/ISO 9809-2, "Gas cylinders," or 29 CFR 1910.169, "Design, construction and testing of refillable seamless steel gas cylinders and tubes".

19.3.4.4 – 3

Relief valves on transportable air tanks shall be of the ASME type on ASME cylinders and of the DOT/UN/ISO type on DOT/UN/ISO cylinders or equal for the rated pressure.

19.3.4.5 – 4

Valves installed on air tanks shall meet the requirements of the Compressed Gas Association or equivalent standards regarding pressure and usage with compressed air.

19.3.4.6 – 5

If the installation utilizes cylinders that require periodic testing, a label shall be placed on the operator's panel indicating the test date stamped on the cylinders and the date the cylinders will next require testing.

Statement of Problem and Substantiation for Public Input

The wording and numbering of the cases here were inconsistent. 29 CFR 1910.169 is not applicable here, not an equivalent to DOT tank requirements, and explicitly states it does not apply to automotive applications. DOT largely now replaced by US/ISO cylinders. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 185-NFPA 1900-2025 [Section No. 3.3.13]	
Public Input No. 186-NFPA 1900-2025 [New Section after 3.3.154]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	
Public Input No. 188-NFPA 1900-2025 [Section No. A.23.5]	
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	
Public Input No. 310-NFPA 1900-2025 [Section No. 2.3.20]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu May 15 15:09:34 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-93-NFPA 1900-2026](#)

Statement: The wording and numbering of the cases here were inconsistent. 29 CFR 1910.169 is not applicable here, not an equivalent to DOT tank requirements, and explicitly states it does not apply to automotive applications. DOT largely now replaced by US/ISO cylinders.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

**Public Input No. 417-NFPA 1900-2025 [Section No. 20.2]****20.2 Aerial Ladder Requirements.****20.2.1**

The aerial ladder ~~shall consist of two or more ladder sections that,~~ together with the steps and platforms on the apparatus body , ~~provide~~ shall provide continuous egress for firefighters and civilians from an elevated position to the ground.

20.2.2 Device Ratings and Performance.**20.2.2.1**

The rated vertical height of an aerial ladder shall be ~~both of the following:~~

- ~~At least 50 ft (15 m)~~

~~Measured- m easured~~ vertically with the ladder at maximum elevation and extension from the outermost rung of the outermost fly section to the ground .

20.2.2.2*

The rated horizontal reach of an aerial ladder shall be measured in a horizontal plane from the centerline of the turntable rotation to the outermost rung on the outermost fly section with the aerial ladder extended to its maximum horizontal reach.

20.2.2.3

Height and reach dimensions shall be taken with the aerial ladder mounted on a chassis meeting the aerial manufacturer's minimum recommended fire apparatus specifications, with the fire apparatus on level ground, and with the stabilizers fully deployed.

20.2.2.4

With the stabilizers set, the aerial ladder shall be capable of being raised using any combination of control functions from the bedded position to maximum elevation and extension and rotated 90 degrees within either of the following time limits:

- (1) 120 seconds if the aerial ladder has a rated vertical height of 110 ft (34 m) or less
- (2) 180 seconds if the aerial ladder has a rated vertical height over 110 ft (34 m)

Statement of Problem and Substantiation for Public Input

Remove design prescriptive wording. There is no reason why you could not design a truck with a single section if that made sense. There does not appear to be any criteria for why the ladder must be at least 50 ft. There is no minimum height in this standard for Elevated Platform devices or Water Tower devices. Delete this requirement as design restrictive.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 15:16:13 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-358-NFPA 1900-2026

Statement: Remove design prescriptive wording. There is no reason why you could not design a truck with a single section if that made sense. There does not appear to be any criteria for why the ladder must be at least 50 ft. There is no minimum height in this standard for Elevated Platform devices or Water Tower devices. The committee is deleting this requirement as it is design restrictive.

**Public Input No. 418-NFPA 1900-2025 [Section No. 20.5]****20.5**

~~Secondary~~

Secondary Operator

Steps

Standing Accommodation

20.5.

~~1~~

1

Two folding steps

~~with surfaces that meet the~~

or a single standing platform shall be provided on the ladder for use by the water monitor operator

20.5.2

Each surface shall meet the slip-resistant requirements of 12.6.4

~~shall be provided on the ladder for use by the ladder-pipe-monitor operator~~

~~.~~

20.5.

~~2~~

3

Each

folding

step

~~shall comply with both of the following: Have a minimum design load of 500 lb~~

or standing platform shall support a 500 lb (227 kg)

~~Be a minimum~~

downward load without permanent deformation.

20.5.4

Each step shall provide a minimum of 35 in. 2 (22,

500 mm²) in area

500 mm2) of standing surface

20.5.

~~3 A single step that has a minimum design load of 500 lb (227 kg) and a minimum area of~~

5

Each standing platform shall provide a minimum of 100 in. 2 (65,

000 mm²) shall be permitted to be used in place of the two steps.

000 mm2) of standing surface

Statement of Problem and Substantiation for Public Input

Text revised to be more concise. Added pass/fail criteria for the 500 lb load requirement matching what we did for the aerial platform railings in the last revision. The requirement to protect the operator's feet from protruding through the rungs was later in the document. It applied only to steps for the operator if the device was equipped with tip controls. Moving the requirement to this section ensures that any step provided on the fly section will protect the feet.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 426-NFPA 1900-2025 [Section No. 20.13.4]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 15:37:38 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-359-NFPA 1900-2026](#)

Statement: Text revised to be more concise. Added pass/fail criteria for the 500 lb load requirement matching what we did for the aerial platform railings in the last revision. The requirement to protect the operator's feet from protruding through the rungs was later in the document. It applied only to steps for the operator if the device was equipped with tip controls. Moving the requirement to this section ensures that any step provided on the fly section will protect the feet.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP



Public Input No. 419-NFPA 1900-2025 [Section No. 20.7]

20.7 Obstructions Below the Ladder.

20.7.1

Where a solid obstruction below the ladder is wider than 12 in. (300 mm), a minimum toe clearance of 7 in. (180 mm) between the centerline of the rung and the obstruction shall be provided (see figure 20 .7.1).

20.7.2

Where the solid obstruction below the centerline of the ladder is 12 in. (300 mm) or less in width, the standoff between the centerline of the rung and the obstruction shall be permitted to be less than 7 in. (180 mm), provided there is at least 6 in. (150 mm) of rung width and 7 in. (180 mm) of depth below the centerline of the rung on each side of the obstruction (see figure 20 .7.2).

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Figure_20.7.1_250821.jpg	Figure 20.7.1	
Figure_20.7.2_250821.jpg	Figure 20.7.2	

Statement of Problem and Substantiation for Public Input

The text is somewhat complicated and difficult to understand. Adding the figures should help.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 16:29:35 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-361-NFPA 1900-2026](#)

Statement: The text is somewhat complicated and difficult to understand. Adding new figures to help with understanding the requirement.

**Public Input No. 420-NFPA 1900-2025 [Section No. 20.10.2]****20.10.2**

A low-air warning system shall be provided that will monitor the air volume and provide an audible and visual warning at both the ~~upper and lower control stations~~ primary and secondary operating positions when the air volume is at or below 20 percent.

Statement of Problem and Substantiation for Public Input

The term used in this section is "operating positions", not "control stations". Correct for consistency.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 17:08:21 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-362-NFPA 1900-2026](#)

Statement: The term used in this section is "operating positions", not "control stations". Correct for consistency.

**Public Input No. 421-NFPA 1900-2025 [Section No. 20.11.1]****20.11.1**

The rated capacity of the aerial ladder shall be a minimum load of 250 lb (114 kg) carried on the outermost rung of the outermost fly section with the aerial ladder placed in the horizontal position at maximum horizontal extension and with the ~~stabilizers fully deployed~~ stabilizers deployed in accordance with the manufacturer's operating instructions .

20.11.1.1

The minimum rated capacity shall remain constant throughout the entire operating envelope of the aerial ladder.

20.11.1.2

The aerial ladder shall be capable of operating in any position while carrying its rated capacity on the outermost rung of the outermost fly section.

20.11.1.3

If the aerial ladder has a permanently mounted water delivery system, the 250 lb (114 kg) rated capacity shall be determined without water in the system.

Statement of Problem and Substantiation for Public Input

Clarify the intent of "fully deployed". The term could mean all the way out and set on the ground. Or it could mean all the way out and extended to the stabilizer's full extension. Or it could mean out and down and extended far enough to take the bulge out of the tires. What we really want here is the stabilizers in the proper configuration as specified in the operator manual.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 17:17:01 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-363-NFPA 1900-2026](#)

Statement: Clarify the intent of "fully deployed". The term could mean all the way out and set on the ground. Or it could mean all the way out and extended to the stabilizer's full extension. Or it could mean out and down and extended far enough to take the bulge out of the tires. What we really want here is the stabilizers in the proper configuration as specified in the operator manual.

**Public Input No. 422-NFPA 1900-2025 [Section No. 20.11.4]****20.11.4***

If the aerial ladder is rated in multiple configurations, the manufacturer shall describe these configurations, including the rated capacity at each operating position.

20.11.4.1 –

~~This information shall be provided in the operations manual and on a capacity label or on an electronic display at the operator's control station~~
~~, on the load chart .~~

Statement of Problem and Substantiation for Public Input

Clarify that this information should be on the load chart, which is called out in 20.31.3. Avoid the implication that additional labels are required.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 17:26:54 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-364-NFPA 1900-2026](#)

Statement: Clarify that this information should be on the load chart, which is called out in 20.31.3. Avoid the implication that additional labels are required.

**Public Input No. 423-NFPA 1900-2025 [Section No. 20.13.1.1]****20.13.1.1 –**

~~Where hydraulic components are utilized, they shall meet the requirements of Section 20.27 and shall be designed to prevent damage at the top and bottom limits.~~

Statement of Problem and Substantiation for Public Input

The first shall is not needed as 20.27 is a general requirement already. The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 17:32:22 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-365-NFPA 1900-2026](#)

Statement: The first shall is not needed as 20.27 is a general requirement already. The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

**Public Input No. 424-NFPA 1900-2025 [Section No. 20.13.3.1]****20.13.3.1 –**

Where hydraulic components are utilized, they shall meet the requirements of Section 20.27 .

Statement of Problem and Substantiation for Public Input

Not needed as 20.27 is a general requirement already.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 475-NFPA 1900-2025 [Section No. 20.18.1]	
Public Input No. 488-NFPA 1900-2025 [Section No. 20.23.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 17:34:33 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-366-NFPA 1900-2026](#)

Statement: Not needed as 20.27 is a general requirement already.

**Public Input No. 425-NFPA 1900-2025 [Section No. 20.13.3.6]****20.13.3.6 –**

A means shall be provided to prevent damage to the extension system at full retraction or full extension.

Statement of Problem and Substantiation for Public Input

The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 18:22:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-367-NFPA 1900-2026](#)

Statement: The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

**Public Input No. 426-NFPA 1900-2025 [Section No. 20.13.4]****20.13.4* Secondary Operator's Position.**

If a secondary aerial ladder operator's position is located at the tip of the outermost fly section, the following shall apply:

- (1) ~~The lower control shall override the aerial tip control station~~ primary operator controls shall override the secondary operator controls.
- (2) ~~The lower control station primary operator position~~ shall have a momentary switch that enables the ~~tip~~ secondary operator controls when closed and disables the tip controls when opened or released.
- (3) The maximum speed of the ladder functions measured at the tip shall be as follows when operated from the ~~tip control station~~ secondary operator position :
 - (4) Rotation at 2 ft/sec (0.6 m/sec), when fully extended at 0 degrees elevation
 - (5) Elevation and lowering at 1 ft/sec (0.3 m/sec)
 - (6) Extension and retraction at 0.5 ft/sec (0.15 m/sec)
- (7) ~~The step(s) for the tip operator shall be designed to keep the operator's feet from protruding through the outermost fly section.~~

Statement of Problem and Substantiation for Public Input

Revised to use the consistent terms of primary and secondary operator positions as used in the title of this section.
Removed the foot clearance statement as it is moved to earlier in the document.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 418-NFPA 1900-2025 [Section No. 20.5]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 18:30:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-360-NFPA 1900-2026

Statement: Revised to use the consistent terms of primary and secondary operator positions as used in the title of this section.

Removed the foot clearance statement as it is moved to earlier in the document.

**Public Input No. 427-NFPA 1900-2025 [Section No. 20.14.3.2]****20.14.3.2**

The

~~discharge end of the piping shall not have a threaded connection~~

pressure relief valve shall be designed to minimize the potential for an operator to cap off the discharge .

Statement of Problem and Substantiation for Public Input

The intent of this requirement is to prevent an operator from capping off the discharge port of the pressure relief valve and thus negating its effect. But threads are not the only feature that could do this. A flange on the discharge could also lend itself to being capped, as could a victaulic end. The proposed wording communicates the intent.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 478-NFPA 1900-2025 [Section No. 20.20.8.2]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 21 18:40:52 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-370-NFPA 1900-2026

Statement: The intent of this requirement is to prevent an operator from capping off the discharge port of the pressure relief valve and thus negating its effect. But threads are not the only feature that could do this. A flange on the discharge could also lend itself to being capped, as could a victaulic end. The proposed wording communicates the intent.

**Public Input No. 428-NFPA 1900-2025 [Section No. 20.14.4.3]****20.14.4.3**

~~Positive stops~~ A means shall be provided to prevent the swivel or traverse of the monitor from exceeding the aerial ladder manufacturer's recommendation.

Statement of Problem and Substantiation for Public Input

Remove design restrictive wording. For remote control devices the swivel and traverse motion can be provided through an algorithm as well.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 18:44:20 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-373-NFPA 1900-2026](#)

Statement: Remove design restrictive wording. For remote control devices the swivel and traverse motion can be provided through an algorithm as well.

**Public Input No. 429-NFPA 1900-2025 [Section No. 20.14.4.4]****20.14.4.4**

If a power-operated monitor is provided, ~~the primary controls there shall be controls at the aerial operator~~ primary operator's position, ~~and these controls shall be~~ capable of overriding all other monitor controls.

Statement of Problem and Substantiation for Public Input

Use the proper term "primary operator position" and eliminate two shalls in one paragraph.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 21 18:48:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-374-NFPA 1900-2026

Statement: Use the proper term "primary operator position" and eliminate two shalls in one paragraph.

**Public Input No. 470-NFPA 1900-2025 [Section No. 20.14.5]****20.14.5**

A nozzle capable of discharging a minimum of 1000 gpm (4000 L/min) ~~nozzle~~ shall be furnished.

Statement of Problem and Substantiation for Public Input

Change wording to match the wording in the platform section 20.20.3

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 14:26:04 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-375-NFPA 1900-2026](#)

Statement: Change wording to match the wording in the platform section 20.20.3



Public Input No. 471-NFPA 1900-2025 [Section No. 20.14.7]

20.14.7

If the apparatus is equipped with a fire pump ~~capable of supplying the required flow and pressure, a~~ that supplies an aerial waterway, a permanent valved connection shall be provided between the pump and the waterway system.

Statement of Problem and Substantiation for Public Input

The current wording implies that an apparatus that has a pump must have a permanent valved connection between the pump and the waterway. This is fine unless the apparatus does not have a main pump, but does have a aux pump for some other purpose. Unlikely, yes, but no harm cleaning up the wording to match the intent.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 477-NFPA 1900-2025 [Section No. 20.20.6]	
Public Input No. 494-NFPA 1900-2025 [Section No. 20.24.6]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 28 14:51:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-376-NFPA 1900-2026](#)

Statement: The current wording implies that an apparatus that has a pump must have a permanent valved connection between the pump and the waterway. This is fine unless the apparatus does not have a main pump, but does have a aux pump for some other purpose. Unlikely, yes, but no harm cleaning up the wording to match the intent.

**Public Input No. 472-NFPA 1900-2025 [Section No. 20.14.8]****20.14.8**

A flowmeter shall be installed in the waterway, with ~~a~~ at least one display on ~~either~~ the pump operator's panel or the aerial ladder operator's control panel.

Statement of Problem and Substantiation for Public Input

Make wording consistent with the platform section 20.20.7.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 495-NFPA 1900-2025 [Section No. 20.24.7]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 28 14:56:00 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-379-NFPA 1900-2026](#)

Statement: Make wording consistent with the platform section 20.20.7.

**Public Input No. 473-NFPA 1900-2025 [Section No. 20.15.1]****20.15.1**

The elevating platform shall consist of an elevated ~~tower of two or more booms or sections equipped~~ tower equipped with a passenger-carrying platform(s) assembly.

Statement of Problem and Substantiation for Public Input

Remove design-restrictive requirement. There may be some application where an elevating platform with a single boom or section may be beneficial.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 15:35:43 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-380-NFPA 1900-2026](#)

Statement: Remove design-restrictive requirement. There may be some application where an elevating platform with a single boom or section may be beneficial.

**Public Input No. 474-NFPA 1900-2025 [Section No. 20.15.2.1]****20.15.2.1**

The rated vertical height of the elevating platform shall be measured vertically from the top surface of the platform handrail to the ground, with the platform bucket level to the earth and the device raised to its position of maximum elevation.

Statement of Problem and Substantiation for Public Input

Text revised to clarify intent and prevent exaggerating vertical reach rating by tilting the platform bucket out of level during measurement.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 16:48:11 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-381-NFPA 1900-2026

Statement: Text revised to clarify intent and prevent exaggerating vertical reach rating by tilting the platform bucket out of level during measurement.

**Public Input No. 475-NFPA 1900-2025 [Section No. 20.18.1]****20.18.1***

Power-operated elevating and extending devices designed and powered to allow multiple movements of the elevating platform booms or sections simultaneously under all rated conditions of loading shall be provided.

20.18.1.1

~~Where hydraulic components are utilized, they shall meet the requirements of Section 20.27.~~

20.18.1.2 –

An automatic locking device(s) shall be provided so that the desired elevated position can be maintained.

20.18.1.3 –

~~Provisions shall be made to prevent damage at the top and bottom limits of elevation and extension.~~

Statement of Problem and Substantiation for Public Input

20.18.1.1 is Not needed because 20.27 covers this and is a general requirement already.

20.18.1.3 is not needed. The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 424-NFPA 1900-2025 [Section No. 20.13.3.1]	
Public Input No. 488-NFPA 1900-2025 [Section No. 20.23.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 16:56:16 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-368-NFPA 1900-2026](#)

Statement: 20.18.1.1 is not needed because 20.27 covers this and is a general requirement already.

20.18.1.3 is not needed. The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

**Public Input No. 476-NFPA 1900-2025 [Section No. 20.20.2]****20.20.2 –**

~~Friction loss (total system loss less head loss) between the monitor outlet and a point below the waterway swivel shall not exceed 100 psi (700 kPa) at a flow of 1000 gpm (4000 L/min).~~

Statement of Problem and Substantiation for Public Input

This is an arbitrary requirement. We already prescribe the pressure and flow required. As long as the system can provide the required flow and pressure at the nozzle the exact value of restriction is not relevant. Also, why would this only apply to devices 110 feet or less? Probably because higher apparatus must overcome more head pressure and they could not meet the arbitrary 100 psi of loss. Again, why do we care if the flow and pressure ratings at the nozzle are met and the requirements for pump safety factors from the pump chapter are met.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 28 17:06:05 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-392-NFPA 1900-2026](#)

Statement: This is an arbitrary requirement. We already prescribe the pressure and flow required. As long as the system can provide the required flow and pressure at the nozzle the exact value of restriction is not relevant. Also, why would this only apply to devices 110 feet or less? Probably because higher apparatus must overcome more head pressure and they could not meet the arbitrary 100 psi of loss. Again, why do we care if the flow and pressure ratings at the nozzle are met and the requirements for pump safety factors from the pump chapter are met.

**Public Input No. 477-NFPA 1900-2025 [Section No. 20.20.6]****20.20.6**

If the apparatus is equipped with a fire pump ~~capable of supplying the required flow and pressure~~ that supplies a waterway , a permanent valved connection shall be provided between the pump and the waterway system.

Statement of Problem and Substantiation for Public Input

The current wording implies that an apparatus that has a pump must have a permanent valved connection between the pump and the waterway. This is fine unless the apparatus does not have a main pump, but does have a aux pump for some other purpose. Unlikely, yes, but no harm cleaning up the wording to match the intent. See also 20.14.7

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 471-NFPA 1900-2025 [Section No. 20.14.7]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 28 17:10:13 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-377-NFPA 1900-2026](#)

Statement: The current wording implies that an apparatus that has a pump must have a permanent valved connection between the pump and the waterway. This is fine unless the apparatus does not have a main pump, but does have a aux pump for some other purpose. Unlikely, yes, but no harm cleaning up the wording to match the intent. See also 20.14.7

**Public Input No. 478-NFPA 1900-2025 [Section No. 20.20.8.2]**

20.20.8.

2

2

The

~~discharge end of the piping shall not have a threaded connection~~

pressure relief valve shall be designed to minimize the potential for an operator to cap off the discharge .

Statement of Problem and Substantiation for Public Input

The intent of this requirement is to prevent an operator from capping off the discharge port of the pressure relief valve and thus negating its effect. But threads are not the only feature that could do this. A flange on the discharge could also lend itself to being capped, as could a victaulic end. The proposed wording communicates the intent. See also 20.14.3.2

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 427-NFPA 1900-2025 [Section No. 20.14.3.2]	
Public Input No. 496-NFPA 1900-2025 [Section No. 20.24.8.2]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Aug 28 17:15:29 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-371-NFPA 1900-2026

Statement: The intent of this requirement is to prevent an operator from capping off the discharge port of the pressure relief valve and thus negating its effect. But threads are not the only feature that could do this. A flange on the discharge could also lend itself to being capped, as could a victaulic end. The proposed wording communicates the intent. See also 20.14.3.2

**Public Input No. 479-NFPA 1900-2025 [Section No. 20.21.1]**

20.21.

1-

1

The water tower shall

consist of two or more booms designed to telescope, articulate, or both and a waterway designed to
be designed to supply a large capacity elevated water stream.

Statement of Problem and Substantiation for Public Input

Remove design restrictive text. Remove "large capacity" because this section does not require any larger capacity than does the waterways on a ladder or a platform.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 480-NFPA 1900-2025 [Section No. 3.3.304]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 17:31:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-382-NFPA 1900-2026

Statement: Remove design restrictive text.

**Public Input No. 488-NFPA 1900-2025 [Section No. 20.23.1]****20.23.1**

Power-operated elevating and extending devices shall be provided.

20.23.1.1

They shall be so designed and powered to allow multiple movements of the water tower booms or sections simultaneously under all rated conditions of loading.

20.23.1.2

~~Where hydraulic components are utilized, they shall meet the requirements of Section 20.27 .~~

20.23.1.3 –

An automatic locking device(s) shall be provided so that the desired elevated position can be maintained.

20.23.1.4 –

~~Provisions shall be made to prevent damage at the top and bottom limits of elevation and extension.~~

Statement of Problem and Substantiation for Public Input

20.23.1.2 - Not needed because 20.27 is a general requirement already.

20.23.1.4 - The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 424-NFPA 1900-2025 [Section No. 20.13.3.1]	
Public Input No. 475-NFPA 1900-2025 [Section No. 20.18.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 14:05:56 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-369-NFPA 1900-2026](#)

Statement: 20.23.1.2 - Not needed because 20.27 is a general requirement already.

20.23.1.4 - The damage prevention statement is a carryover from long ago when there must have been some poor design that prompted its inclusion. There are thousands of aspects of a fire apparatus where you could say parts should be designed to prevent damage when they are operated, but that would make for a very long document.

**Public Input No. 489-NFPA 1900-2025 [Section No. 20.23.3]**

20.23.

~~3 If the water tower has a rated water delivery capacity of 3500 gpm (14,000 L/min) or less, a~~

3

A power-operated turntable shall be provided that will allow continuous rotation in either direction under all rated conditions of loading.

20.23.3.1 * _

The turntable rotation bearing shall be accessible for lubrication and torque verification of bolts.

20.23.3.

~~2~~

2

The turntable rotation mechanism shall be

provided

equipped with an automatically applied brake or self-locking drive that

is capable of preventing

provides sufficient braking capacity when all power systems are nonfunctioning, to prevent turntable rotation under all rated conditions of loading

when all power systems are nonfunctioning

.

Statement of Problem and Substantiation for Public Input

20.23.3 - There is no logical reason why you would not need a powered turntable for a device that flows more than 3500 gpm.

20.23.3.2 - This statement appears twice earlier in the document but it is written differently. Make consistent with sections 20.123.2.2 and 20.18.3.2

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 14:13:06 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-383-NFPA 1900-2026

Statement: 20.23.3 - There is no logical reason why you would not need a powered turntable for a device that flows more than 3500 gpm.

20.23.3.2 - This statement appears twice earlier in the document but it is written differently. Make consistent with sections 20.12.3.2.2 and 20.18.3.2

**Public Input No. 491-NFPA 1900-2025 [Section No. 20.24.2]****20.24.2 –**

For water towers with a rated vertical height of 110 ft (34 m) or less, the friction loss (total system loss less head loss) between the monitor outlet and a point below the waterway swivel shall not exceed 100 psi (700 kPa) at a flow of 1000 gpm (4000 L/min).

Statement of Problem and Substantiation for Public Input

This is an arbitrary requirement. We already prescribe the pressure and flow required. As long as the system can provide the required flow and pressure at the nozzle the exact value of restriction is not relevant. Also, why would this only apply to devices 110 feet or less? Probably because higher apparatus must overcome more head pressure and they could not meet the arbitrary 100 psi of loss. Again, why do we care what the friction loss value is so long as the maximum flow and pressure at the nozzle are met.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 14:24:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-393-NFPA 1900-2026](#)

Statement: This is an arbitrary requirement. We already prescribe the pressure and flow required. As long as the system can provide the required flow and pressure at the nozzle the exact value of restriction is not relevant. Also, why would this only apply to devices 110 feet or less? Probably because higher apparatus must overcome more head pressure and they could not meet the arbitrary 100 psi of loss. Again, why do we care what the friction loss value is so long as the maximum flow and pressure at the nozzle are met.

**Public Input No. 493-NFPA 1900-2025 [Section No. 20.24.3.2]****20.24.3.2**

If the water tower has a rated water delivery capacity of 3500 gpm (14,000 L/min) or less, the monitor, as distinct from the supporting boom, shall allow the operator to control the aimed direction of the nozzle through a rotation of at least 45 degrees either side of center and at least 30 degrees above and 135 degrees below the centerline of the boom.

Statement of Problem and Substantiation for Public Input

The 3500 gpm seems arbitrary when we know that industrial pumpers can flow much more than this.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 14:37:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The current wording allows apparatus that cant structurally deal with aimable water monitoring.

**Public Input No. 494-NFPA 1900-2025 [Section No. 20.24.6]****20.24.6**

If the apparatus is equipped with a fire pump ~~capable of supplying the required flow and pressure~~ that supplies an aerial waterway , a permanent valved connection shall be provided between the pump and the waterway system.

Statement of Problem and Substantiation for Public Input

The current wording implies that an apparatus that has a pump must have a permanent valved connection between the pump and the waterway. This is fine unless the apparatus does not have a main pump, but does have a aux pump for some other purpose. Unlikely, yes, but no harm cleaning up the wording to match the intent. See also 20.14.7

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 471-NFPA 1900-2025 [Section No. 20.14.7]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 14:57:51 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-378-NFPA 1900-2026](#)

Statement: The current wording implies that an apparatus that has a pump must have a permanent valved connection between the pump and the waterway. This is fine unless the apparatus does not have a main pump, but does have a aux pump for some other purpose. Unlikely, yes, but no harm cleaning up the wording to match the intent. See also 20.14.7

**Public Input No. 495-NFPA 1900-2025 [Section No. 20.24.7]****20.24.7**

A flowmeter shall be installed in the water delivery system with the display on either the at least one display on the pump operator's panel or the water tower operator's control panel.

Statement of Problem and Substantiation for Public Input

Make wording consistent with the platform section 20.20.7.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 472-NFPA 1900-2025 [Section No. 20.14.8]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 15:02:22 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-384-NFPA 1900-2026](#)

Statement: Make wording consistent with the platform section 20.20.7.

**Public Input No. 496-NFPA 1900-2025 [Section No. 20.24.8.2]**

20.24.8.

2

2

The

~~discharge end of the piping shall not have a threaded connection~~

pressure relief valve shall be designed to minimize the potential for an operator to cap off the discharge .

Statement of Problem and Substantiation for Public Input

The intent of this requirement is to prevent an operator from capping off the discharge port of the pressure relief valve and thus negating its effect. But threads are not the only feature that could do this. A flange on the discharge could also lend itself to being capped, as could a victaulic end. The proposed wording communicates the intent. See also 20.14.3.2

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 478-NFPA 1900-2025 [Section No. 20.20.8.2]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 15:07:50 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-372-NFPA 1900-2026

Statement: The intent of this requirement is to prevent an operator from capping off the discharge port of the pressure relief valve and thus negating its effect. But threads are not the only feature that could do this. A flange on the discharge could also lend itself to being capped, as could a victaulic end. The proposed wording communicates the intent. See also 20.14.3.2

**Public Input No. 497-NFPA 1900-2025 [Section No. 20.25.3]****20.25.3**

An interlock shall be provided that prevents operation of the aerial device ~~until the~~ unless the parking brakes have been set and the ~~transmission has been placed in neutral or the transmission is in the drive position with the driveline to the rear axle~~ disengaged motion of the drive wheels has been prevented .

Statement of Problem and Substantiation for Public Input

Remove design restrictive wording. Some apparatus will not have a transmission.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 15:11:38 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-385-NFPA 1900-2026](#)

Statement: Remove design restrictive wording. Some apparatus will not have a transmission.

**Public Input No. 498-NFPA 1900-2025 [Section No. 20.25.6]****20.25.6**

Controls at the operator's position shall be ~~lighted, marked with a label, and conveniently arranged~~ illuminated and have a means to identify their function.

20.25.6.1

These controls shall allow the operator to perform the following:

- (1) Elevate and lower the aerial device
- (2) Extend and retract the aerial device, if applicable
- (3) Rotate the aerial device in either direction, if applicable
- (4) Operate the ~~intercom~~ two-way voice communication system, if applicable

20.25.6.2

A method shall be provided to ~~prevent unintentional~~ minimize the potential for unintentional movement of the aerial device.

20.25.6.3

Each control shall allow the operator to regulate the speed of elevation, extension, and rotation of the aerial device within the limits determined by the manufacturer and this standard.

20.25.6.4

Each control shall be arranged so it can be operated by an operator with a gloved hand without disturbing any other control(s).

20.25.6.5 –

~~For aerial devices that can be operated over the side with the stabilizers not fully deployed, an indicator shall be located at the operator's position to allow the operator to determine the maximum extension in relation to the angle of elevation and the extended length of the stabilizers.~~

Statement of Problem and Substantiation for Public Input

20.25.6 - The phrase "conveniently arranged" is not measurable and therefore not appropriate for a minimum standard document.

20.25.6.1 - Use the term that is used elsewhere in the chapter.

20.25.6.2 - It is not possible to prevent someone from doing something unintentional. Unintended actions are by definition not intended and mistakes can be made no matter how many preventative devices we employ. We can, however, minimize the potential for unintended actions.

20.25.6.5 - The intent of this requirement is unclear. If this is addressing envelope controls it does not go far enough. If it is not the wording is unclear as to the intent.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 15:17:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-386-NFPA 1900-2026](#)

Statement: 20.25.6 - The phrase "conveniently arranged" is not measurable and therefore not appropriate for a minimum standard document.

20.25.6.1 - Use the term that is used elsewhere in the chapter.

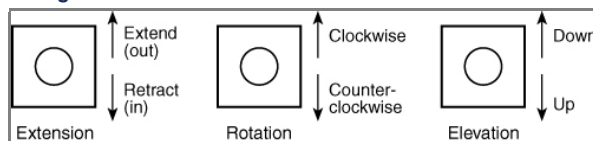
20.25.6.2 - It is not possible to prevent someone from doing something unintentional. Unintended actions are by definition not intended and mistakes can be made no matter how many preventative devices we employ. We can, however, minimize the potential for unintended actions.

20.25.6.5 - The intent of this requirement is unclear. If this is addressing envelope controls it does not go far enough. If it is not the wording is unclear as to the intent.

**Public Input No. 181-NFPA 1900-2025 [Section No. 20.25.7]****20.25.7**

Where a three-lever system is used to control the basic functions of the aerial device, the levers shall be different from the other controls on the panel and arranged adjacent to each other, with the extension control being the left lever, the rotation control being the center lever, and the elevation control being the right lever, as shown in Figure 20.25.7.

Figure 20.25.7 Control Lever Arrangement.

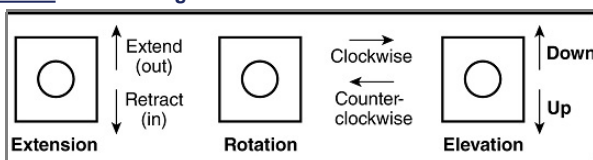
**20.25.7.1**

The aerial device shall extend when the extension control is pushed up or forward (i.e., away from the operator).

20.25.7.2

If the rotation control has a forward/backward orientation or an up/down orientation, the turntable shall rotate clockwise when the rotation control is pushed up or forward (i.e., away from the operator), as shown in Figure 20.25.7.2.

Figure 20.25.7.2 Control 3 Control Lever Arrangement.

**20.25.7.3**

For rotational control orientation other than that specified in 20.25.7.2, the rotational control handle shall move in the direction of rotation, as shown in Figure 20.25.7.3.

20.25.7.4

The aerial device shall lower when the elevation control is pushed up or forward (i.e., away from the operator).

Statement of Problem and Substantiation for Public Input

Correct the figure references. The standard rotational case is described in 20.25.7.2 and figure 20.25.7. The exception is described in 20.25.7.3 and the second figure.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 15 15:42:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-387-NFPA 1900-2026](#)

Statement: Correct the figure references. The standard rotational case is described in 20.25.7.2 and figure 20.25.7. The exception is described in 20.25.7.3 and the second figure.

**Public Input No. 499-NFPA 1900-2025 [Section No. 20.25.11]****20.25.11**

When electric over hydraulic aerial device controls are incorporated, ~~a readily accessible, manual~~ a manual means of overriding the electric controls shall be provided.

Statement of Problem and Substantiation for Public Input

The phrase "readily accessible" is not measurable and therefore not appropriate for a minimum standard document.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 15:33:01 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-390-NFPA 1900-2026

Statement: The phrase "readily accessible" is not measurable and therefore not appropriate for a minimum standard document.

**Public Input No. 182-NFPA 1900-2025 [Section No. 20.28.4]****20.28.4**

The structural safety factors of Section 20.20.28_ shall be met for the rated capacity of the aerial device in all operating positions that the control system will allow it to be placed.

Statement of Problem and Substantiation for Public Input

Correct section reference.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu May 15 16:16:59 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-388-NFPA 1900-2026](#)

Statement: Correct section reference.

**Public Input No. 183-NFPA 1900-2025 [Section No. 20.29.1.2]****20.29.1.2**

Stabilizers shall be provided, if required, to meet the stability requirements Section 20.24.29 .

Statement of Problem and Substantiation for Public Input

Correct section reference.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu May 15 16:19:05 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-389-NFPA 1900-2026](#)

Statement: Correct section reference.

**Public Input No. 501-NFPA 1900-2025 [Section No. 20.31.3]****20.31.3** Load Chart.**20.31.3.1**

A load chart shall be visible to the primary operator and to the platform operator.

20.31.3.2

A load chart shall be visible to the primary operator and to the platform operator.

- (1) Rated capacity through the range of motion of the device
- (2) Rated vertical height
- (3) Rated horizontal reach
- (4) Rated water Flow (if applicable)
- (5)* Rated wind speed

20.31.3.3

The load chart shall be provided with illumination

Statement of Problem and Substantiation for Public Input

The load chart should be visible to the operator at night. Moving this requirement from earlier in the document.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 15:58:19 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-391-NFPA 1900-2026](#)

Statement: The load chart should be visible to the operator at night. Moving this requirement from earlier in the document.



Public Input No. 500-NFPA 1900-2025 [Section No. 20.32.2]

20.32.~~2—Stability Test~~**2 Stability Tests .****20.32.2.**~~1—~~**1**

The apparatus on which the aerial device is mounted shall be in a service-ready condition

and shall be placed on a firm, level surface

~~—~~**20.32.2.**~~2—~~**2**

All

normally removable items,

items on the device that might be removed during a response such as water in the tank, hose, ground ladders, and loose equipment, shall be removed

, but items mounted on the aerial device by the manufacturer shall remain mounted

~~—~~**20.32.2.**~~3—~~

If having the stabilizers extended is part of the configuration, the stabilizers shall be deployed to the point where the interlock system allows operation of the aerial device

3

The stabilizers shall be set for the worst-case stability condition in accordance with the manufacturer's operating instructions .

20.32.2.4~~—~~

Systems that allow the aerial device to be operated with the stabilizers not fully deployed shall be tested in three positions:

- (1) Stabilizers at the minimum extension as defined by the manufacturer
- (2) Stabilizers extended to midpoint of the minimum extension and full extension
- (3) Stabilizers fully deployed

20.32.2.9.1 —

The apparatus that the aerial device is mounted on shall be placed on a firm surface

If there are multiple worst-case stability conditions they shall be described in the manufacturer's operating instructions and each tested independently.

20.32.2.5~~—~~

A load of $1\frac{1}{2}$ times the rated capacity as specified by the manufacturer shall be suspended from the tip of the aerial ladder or from the platform of the elevating platform when it is in the position of least stability.

20.32.2.5.1 —

For aerial devices that have computer controlled or electronically controlled limitations to the range of aerial movement, a test as defined by the manufacturer shall be performed to validate the proper operation of the control system.

20.32.2.6 —

If the manufacturer specifies a rated capacity while water is flowing, then one times the water load and the worst-case nozzle reaction shall be added to the stability test weights.

20.32.2.7 –

For a water tower, the stability test shall include the weight of the water in the system and $1\frac{1}{2}$ times the maximum nozzle reaction force when the aerial device is in the position of least stability.

20.32.2.8 * –

The apparatus shall show no signs of instability, and the test shall not cause permanent deformation of any components.

20.32.2.9 –

The stability shall be further tested as defined in 20.32.2.9.1 through 20.32.2.9.6 .

Tests shall be conducted with the device at zero degrees of elevation.

The motion controls shall be used to maintain zero degrees of elevation during the test or as close as possible without contacting parts of the apparatus.

The test shall be conducted by rotating the device through the worst-case stability condition(s).

20.32.2.6

Tests shall be conducted on the following surfaces:

On-Level: On a firm level surface

On-Grade: On a firm surface sloping downward at 5 degrees (8.

7-percent

7 percent grade) in the direction most likely to cause overturning

and shall be configured as defined in

20.32.2.

2.

7 Test Weight Determination

20.32.2.

9

7.

2-

If having the stabilizers extended is part of the configuration, the stabilizers shall be deployed in accordance with the manufacturer's recommendations. A load of $1\frac{1}{3}$ times the rated capacity shall be suspended from the tip of the aerial ladder or the platform of the elevating platform when it is in the position of least stability.

1

Load chart capability for distributed loading or point loads other than at the tip of the device shall be converted to an equivalent weight at the tip of the device for the purpose of the stability test.

20.32.2.

9

7.

3-

Systems that allow the aerial device to be operated with the stabilizers not fully deployed shall be tested in three positions:

- (1) Stabilizers at the minimum extension as defined by the manufacturer
- (2) Stabilizers extended to midpoint of the minimum extension and full extension
- (3) Stabilizers fully deployed

20.32.2.9.4 –

2

Tests on an aerial ladder or platform devices shall be conducted with the following weight suspended as near as practical to the end of the device.

The weights shall be suspended so there is a gap between the test weights and the test surface at the start of the test.

	Total Test Weight Load at Tip		
	Load Chart Capacity at 0 Elevation	Water Load	Nozzle Reaction
On Level	x 1.50	x 1.00	Worst Case x 1.00
On Grade	x 1.33	x 1.00	Worst Case x 1.00

20.32.2.

9

7.

5-

3

For

Tests on a water tower

the stability test shall include the weight of the water in the system and $1\frac{1}{3}$ times the maximum nozzle reaction when it is in the position of least stability.

shall be conducted with the following weight suspended as close as practical to the end of the device.

	Total Test Weight Load at Tip		
	Load Chart Capacity at 0 elevation	Water Load	Nozzle Reaction
On Level	NA	x 1.00	Worst Case x 1.33
On Grade	NA	x 1.00	Worst Case x 1.33

20.32.2.

9.6—

The apparatus shall show no signs of instability, and the test

8* Pass/Fail Criteria

20.32.2.8.1

The test weights shall not contact the test surface during the test.

20.32.2.8.2

The test shall not cause permanent deformation of any components.

20.32.3 Device to Body Collision Avoidance Test

For aerial devices that have automatically controlled limitations to the range of aerial movement, a test as defined by the manufacturer shall be performed to validate the proper operation of the control system

Statement of Problem and Substantiation for Public Input

Stability test section re-written to accomplish the following:

- 1) Reorganize the paragraphs to eliminate duplicate text.
- 2) Consolidate the differences between ladder, platform, and water tower criteria into convenient tables.
- 3) Add some specifics to improve the repeatability of the tests.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 502-NFPA 1900-2025 [Section No. 20.32.3]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 15:47:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-395-NFPA 1900-2026

Statement: Stability test section re-written to accomplish the following: 1) Reorganize the paragraphs to eliminate duplicate text. 2) Consolidate the differences between ladder, platform, and water tower criteria into convenient tables. 3) Add some specifics to improve the repeatability of the tests.

**Public Input No. 184-NFPA 1900-2025 [Section No. 20.32.2.2]****20.32.2.2—**

All normally removable items, such as water, hose, ground ladders, and loose equipment, shall be removed, ~~but items~~ .

20.32.2.2.1 Items mounted on the aerial device by the manufacturer shall remain mounted.

Statement of Problem and Substantiation for Public Input

The section has two requirements (shall) which need to be separated per the Manual of style.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 15 16:21:21 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-395-NFPA 1900-2026

Statement: Stability test section re-written to accomplish the following: 1) Reorganize the paragraphs to eliminate duplicate text. 2) Consolidate the differences between ladder, platform, and water tower criteria into convenient tables. 3) Add some specifics to improve the repeatability of the tests.

**Public Input No. 502-NFPA 1900-2025 [Section No. 20.32.3]****20.32.**

~~3 Horizontal~~

3 Horizontal Rotation Load Test.**20.32.3.**

~~1~~

~~With the aerial device out of the cradle in the fully extended position at zero degrees elevation, a test load shall be applied in a horizontal direction normal to the centerline of the ladder or boom.~~

1

Test shall be conducted with the device:

- (1) At zero degrees of elevation
- (2) On a firm level surface
- (3) Fully extended
- (4) Out of the cradle

20.32.3.

~~1.1~~

~~For aerial devices with a prepiped waterway, a 350 lb (160 kg) test load~~

2

A test load per the following table shall be applied at the tip of the ladder or boom

~~1~~

20.32.3.1.2

~~For aerial ladders without a prepiped waterway, a 220 lb (100 kg) test load shall be applied at the tip in a horizontal direction perpendicular to the centerline of the ladder or boom.~~

<u>Apparatus Type</u>	<u>Test Force</u>
<u>Ladder or Platform</u>	<u>220 lb (100 kg)</u>
<u>Ladder or Platform with Prepiped Waterway</u>	<u>350 lb (159 kg)</u>
<u>Water Tower</u>	<u>130 lb (59 kg)</u>

20.32.3.

~~2~~

2

The turntable shall not rotate, and the ladder or boom shall not deflect beyond what the manufacturer's specification allows.

Statement of Problem and Substantiation for Public Input

Horizontal rotation load test section re-written to accomplish the following:

- 1) Reorganize the paragraphs to eliminate duplicate text.
- 2) Consolidate the differences between ladder, platform, and water tower criteria into convenience tables.
- 3) Add a missing test force for the water tower

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 500-NFPA 1900-2025 [Section No. 20.32.2]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 16:27:36 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-396-NFPA 1900-2026](#)

Statement: Horizontal rotation load test section re-written to accomplish the following: 1) Reorganize the paragraphs to eliminate duplicate text. 2) Consolidate the differences between ladder, platform, and water tower criteria into convenience tables. 3) Add a missing test force for the water tower



Public Input No. 503-NFPA 1900-2025 [Section No. 20.32.4.2]

20.32.4.2 –

If the water system has been modified from the standard model configuration, a new flow test shall be conducted to determine that the friction loss in the water system between the base of the swivel and the monitor outlet does not exceed 100 psi (700 kPa) with 1000 gpm (4000 L/min) flowing and with the water system at full extension.

Statement of Problem and Substantiation for Public Input

This test is not necessary because the contractor already has to show that the waterway can meet the pressure and flow in 20.32.4.1 The pump chapter requirements ensure that the components can remain within their ratings. There is also no definition of what constitutes a "standard model configuration", nor what would be considered a "modification" given the very custom nature of the fire apparatus industry.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE AERIAL TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Aerial Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 16:34:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-394-NFPA 1900-2026](#)

Statement: This test is not necessary because the contractor already has to show that the waterway can meet the pressure and flow in 20.32.4.1 The pump chapter requirements ensure that the components can remain within their ratings. There is also no definition of what constitutes a "standard model configuration", nor what would be considered a "modification" given the very custom nature of the fire apparatus industry.



Public Input No. 32-NFPA 1900-2024 [Section No. 21.1]

21.1* Application.

Where any part of a line voltage electrical system is provided as a fixed installation, the applicable requirements of this chapter shall apply. This chapter shall not apply to high voltage electric vehicle (EV) systems.

Statement of Problem and Substantiation for Public Input

This chapter is intended to apply to fixed frequency AC power at 110V or 220V common to the stationary utility power grid. Electric vehicles also employ AC power, but it is variable frequency current that drives traction motors. This revision will ensure that there is no confusion that this chapter would not apply to EV systems.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 10:47:58 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-286-NFPA 1900-2026

Statement: This chapter is intended to apply to fixed frequency AC power at 110V or 220V common to the stationary utility power grid. Electric vehicles also employ AC power, but it is variable frequency current that drives traction motors. This revision will ensure that there is no confusion that this chapter would not apply to EV systems.



Public Input No. 33-NFPA 1900-2024 [Section No. 21.2.4]

21.2.4 * –

Where available, line voltage electrical system equipment and materials included on the apparatus shall be listed and used only in the manner for which they have been listed.

Statement of Problem and Substantiation for Public Input

This section has caused considerable confusion in the industry since most line voltage power sources used on fire apparatus are not “listed”. Also, the very general term “listed” is not useful without also providing a specification the device should be listed in accordance with. This chapter has several other specific references that call for devices to be “listed”, but in those cases the references also have a specific purpose such as “for wet locations”, or where conformance to a UL standard is required, e.g. listed to UL 498.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 10:55:28 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-287-NFPA 1900-2026](#)

Statement: This section has caused considerable confusion in the industry since most line voltage power sources used on fire apparatus are not “listed”. Also, the very general term “listed” is not useful without also providing a specification the device should be listed in accordance with. This chapter has several other specific references that call for devices to be “listed”, but in those cases the references also have a specific purpose such as “for wet locations”, or where conformance to a UL standard is required, e.g. listed to UL 498.



Public Input No. 34-NFPA 1900-2024 [Section No. 21.2.6.1]

21.2.6.1 –

Any equipment used in a dry location shall be listed for dry locations.

Statement of Problem and Substantiation for Public Input

Any electrical equipment that is appropriate for a wet location would certainly be fine when used in a dry location. This sentence could imply that a component used in a dry location must only be listed for dry conditions, and that a component listed for wet conditions would not be appropriate. As written, this paragraph could end up excluding components that would otherwise be used without a concern.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 10:57:34 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-288-NFPA 1900-2026](#)

Statement: Any electrical equipment that is appropriate for a wet location would certainly be fine when used in a dry location. This sentence could imply that a component used in a dry location must only be listed for dry conditions, and that a component listed for wet conditions would not be appropriate. As written, this paragraph could end up excluding components that would otherwise be used without a concern.

**Public Input No. 490-NFPA 1900-2025 [Section No. 21.2.7]****21.2.7* Power Factor Correction.**

Any permanently mounted line voltage device powered by an onboard generator shall be equipped with circuitry such that the power factor of the device is 0.9 or greater.

Statement of Problem and Substantiation for Public Input

Typical hydraulic generators have a power factor of 0.8. The Annex explains that the intent of this statement is to protect the generator from connected devices with power factor less than 0.9.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 14:13:28 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee believes that the power factor was important for other power sources such as an inverter.

**Public Input No. 82-NFPA 1900-2025 [Section No. 21.3.1.4]****21.3.1.4**

The neutral conductor shall be colored white or gray in accordance with 200.6 7 , "Means of Identifying Grounded Conductors," of *NFPA 70*.

Statement of Problem and Substantiation for Public Input

Update reference to the correct section in NFPA 70-2026.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed Apr 30 14:02:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-289-NFPA 1900-2026](#)

Statement: Update reference to the correct section in NFPA 70-2026.



Public Input No. 35-NFPA 1900-2024 [Section No. 21.3.2.3.1]

21.3.2.3.1 –

The conductor shall have a minimum amperage rating, as defined in 310.15 of *NFPA 70*, of 115 percent of the rated amperage on the power source specification label.

Statement of Problem and Substantiation for Public Input

There may be two ratings on power sources; continuous and peak ratings. This sentence should be specific about which rating to apply the 115% value to. After discussion the Electrical TG determined that the 115% value was not appropriate as the conductors should be sized to the load and the breaker sized to the conductor size. Delete the entire requirement.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 36-NFPA 1900-2024 [Section No. 21.4.1]	
Public Input No. 40-NFPA 1900-2024 [Section No. 21.6.3.5]	
Public Input No. 358-NFPA 1900-2025 [Section No. 21.8.2]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 11:02:21 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-290-NFPA 1900-2026](#)

Statement: There may be two ratings on power sources; continuous and peak ratings. This sentence should be specific about which rating to apply the 115% value to. After discussion the committee determined that the 115% value was not appropriate as the conductors should be sized to the load and the breaker sized to the conductor size.

**Public Input No. 36-NFPA 1900-2024 [Section No. 21.4.1]****21.4.1 –**

All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.

Statement of Problem and Substantiation for Public Input

TG determined that the 115% value was not appropriate as the conductors should be sized to the load and the breaker sized to the conductor size. Delete the entire requirement. THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 35-NFPA 1900-2024 [Section No. 21.3.2.3.1]	
Public Input No. 40-NFPA 1900-2024 [Section No. 21.6.3.5]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 11:05:08 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-291-NFPA 1900-2026](#)

Statement: The committee has determined that the 115% value was not appropriate as the conductors should be sized to the load and the breaker sized to the conductor size.



Public Input No. 37-NFPA 1900-2024 [Section No. 21.5.1.2]

21.5.1.2 –

~~The direct drive generator shall be mounted so that it does not change the ramp breakover angle, angle of departure, or angle of approach as defined by other components, and it shall not extend into the ground clearance area.~~

Statement of Problem and Substantiation for Public Input

This is an arbitrary specification. Something will always be the lowest thing on the chassis, and in some configurations it may make sense that the generator is this something. Why are we dictating designs when we don't necessarily know the whole picture. This requirement has nothing to do with safety. This is not a minimum standard. This should be left to the best judgment of the manufacturer working with the desires of the purchaser.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 11:07:02 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-292-NFPA 1900-2026](#)

Statement: This is an arbitrary specification. Something will always be the lowest thing on the chassis, and in some configurations it may make sense that the generator is this something. Why are we dictating designs when we don't necessarily know the whole picture. This requirement has nothing to do with safety. This is not a minimum standard. This should be left to the best judgment of the manufacturer working with the desires of the purchaser.

**Public Input No. 38-NFPA 1900-2024 [Section No. 21.5.5.2]****21.5.5.2***

The alternator and/or battery system shall be adequate to provide power for continuous operation for a minimum of 2 hours at full the power source specification label output.

Statement of Problem and Substantiation for Public Input

The apparatus's power consumption needs may be lower than the full capacity output of the inverter device selected. Indeed a prudent design would ensure that it is lower and the apparatus OEM may therefore rate the inverter output lower than its actual full output.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 11:10:14 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-293-NFPA 1900-2026](#)

Statement: The apparatus's power consumption needs may be lower than the full capacity output of the inverter device selected. Indeed a prudent design would ensure that it is lower and the apparatus OEM may therefore rate the inverter output lower than its actual full output.

**Public Input No. 40-NFPA 1900-2024 [Section No. 21.6.3.5]****21.6.3.5 –**

If a connecting plug is required, it shall be sized in relation to the system and conform to NEMA configurations for plugs.

Statement of Problem and Substantiation for Public Input

TG determined that the 115% value was not appropriate as the devices should be sized to the load and the breaker sized to the device capability. Delete the entire requirement. THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 36-NFPA 1900-2024 [Section No. 21.4.1]	
Public Input No. 35-NFPA 1900-2024 [Section No. 21.3.2.3.1]	
Public Input No. 41-NFPA 1900-2024 [Section No. 21.7.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 11:18:08 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-294-NFPA 1900-2026](#)

Statement: The committee determined that the 115% value was not appropriate as the devices should be sized to the load and the breaker sized to the device capability. Delete the entire requirement.



Public Input No. 41-NFPA 1900-2024 [Section No. 21.7.1]

21.7.1*

If the apparatus is equipped with a fixed power inlet (shoreline inlet), it shall be a permanently mounted inlet (male-recessed type with cover), ~~sized in accordance with the anticipated load, and wired directly to the system or device to be powered or wired to a transfer switch where required by 21.7.2.~~

21.7.1.1

The protective ground from the shoreline inlet shall be bonded to the vehicle frame.

Statement of Problem and Substantiation for Public Input

The requirement should specify the feature required and leave it up to the apparatus designer to determine the installation in accordance with industry practice and NEC guidelines. THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 40-NFPA 1900-2024 [Section No. 21.6.3.5]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 11:26:24 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-295-NFPA 1900-2026](#)

Statement: The requirement should specify the feature required and leave it up to the apparatus designer to determine the installation in accordance with industry practice and NEC guidelines.

**Public Input No. 358-NFPA 1900-2025 [Section No. 21.8.2]****21.8.2 –**

All power supply assembly conductors, including neutral and grounding conductors, shall have an equivalent ampere rating and shall be sized to carry not less than 115 percent of the ampere of the nameplate current rating of the power source.

Statement of Problem and Substantiation for Public Input

TG determined that the 115% value was not appropriate as the conductors should be sized to the load and the breaker sized to the conductor size. Delete the entire requirement. THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 35-NFPA 1900-2024 [Section No. 21.3.2.3.1]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jul 11 10:22:35 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-296-NFPA 1900-2026](#)

Statement: The committee determined that the 115% value was not appropriate as the conductors should be sized to the load and the breaker sized to the conductor size. Delete the entire requirement.



Public Input No. 83-NFPA 1900-2025 [Section No. 21.9.2 [Excluding any Sub-Sections]]

Overcurrent protection devices shall be provided for each individual circuit and shall be sized at not less than 15 amps in accordance with 240.4, "~~Protection~~ Overcurrent Protection of Conductors," of *NFPA 70*.

Statement of Problem and Substantiation for Public Input

Update NFPA 70 section title to match 2026 edition.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 76-NFPA 1900-2025 [Section No. 2.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 14:10:26 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-297-NFPA 1900-2026

Statement: Update NFPA 70 section title to match 2026 edition.

**Public Input No. 355-NFPA 1900-2025 [Section No. 21.9.2.3]****21.9.2.3**

Dedicated circuits that serve no other purpose shall be provided for any large appliance or device (air conditioning units, large motors, etc.) that requires 60 percent or more of the rated capacity of the circuit to which it is connected, ~~and that circuit shall serve no other purpose .~~

Statement of Problem and Substantiation for Public Input

Reword to make a single "shall" in the wording. No change in the requirement.
THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Mon Jul 07 11:51:31 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-298-NFPA 1900-2026](#)

Statement: Reword to make a single "shall" in the wording. No change in the requirement.

**Public Input No. 42-NFPA 1900-2024 [Section No. 21.9.3.4]****21.9.3.4 * –**

~~Where the power source is 120/240 V and 120 V loads are connected, the apparatus manufacturer or line voltage system installer shall consider load balancing to the extent that it is possible~~

120/240-volt cord reels shall be connected to both legs of the power source .

Statement of Problem and Substantiation for Public Input

The way this text is written it does not produce an apparatus standard. Instead it suggests something that the designer of the apparatus shall "consider", and only to the "extent possible". The annex material is much more specific, and suggests ways the apparatus should be wired, rather than just asking the designer to "consider" something. The last statement in the related annex states that it "should always" be followed. Delete the current body text and move the last sentence from the annex to the body. Keep the rest of the annex language because it does provide good guidance. Even so, the guidance is based on guesses as to what will be plugged into the outlets. The best solution would be for the purchaser to specify what they intend to plug in, and which loads would be drawing at the same time. Will suggest adding this recommendation to the annex.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 11:32:07 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-299-NFPA 1900-2026](#)

Statement: The way this text is written it does not produce an apparatus standard. Instead it suggests something that the designer of the apparatus shall "consider", and only to the "extent possible". The annex material is much more specific, and suggests ways the apparatus should be wired, rather than just asking the designer to "consider" something. The last statement in the related annex states that it "should always" be followed. Delete the current body text and move the last sentence from the annex to the body. Keep the rest of the annex language because it does provide good guidance. Even so, the guidance is based on guesses as to what will be plugged into the outlets. The best solution would be for the purchaser to specify what they intend to plug in, and which loads would be drawing at the same time.

**Public Input No. 190-NFPA 1900-2025 [Section No. 21.11.4.3]****21.11.4.3**

Switches shall simultaneously open all associated line voltage non-grounded current carrying conductors.

Statement of Problem and Substantiation for Public Input

This language is consistent with the National Electrical Code. the "hot" wire(s) should be switched, neutral and protective ground wires are not switched.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Mon May 19 11:00:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-300-NFPA 1900-2026](#)

Statement: This language is consistent with the National Electrical Code. the "hot" wire(s) should be switched, neutral and protective ground wires are not switched.

**Public Input No. 70-NFPA 1900-2025 [Section No. 21.11.5.2]****21.11.5.2**

All receptacles located in a dry location shall be both of the following:

- (1) Of the grounding type
- (2) ~~At at least~~ At least 3 in. (75 mm) above the interior floor height

Statement of Problem and Substantiation for Public Input

extra "at" in statement

Submitter Information Verification

Submitter Full Name: Stephen Wilde

Organization: Certified Fleet Services, Inc.

Street Address:

City:

State:

Zip:

Submittal Date: Tue Mar 04 12:54:15 EST 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-301-NFPA 1900-2026](#)

Statement: There is an extra "at" in statement, which this corrects.

**Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]****21.14 – Power-Operated Light Mast.****21.14.1 * – General.****21.14.1.1 –**

The mast shall be designed to sustain the intended tip load with at least a 125-percent safety factor.

21.14.1.2 –

The mast shall withstand a minimum of a 50 mph (80 kph) wind in a raised, unguyed position.

21.14.2 * – Installation and Operational Requirements.**21.14.2.1 –**

The mast shall be capable of being raised within 2 minutes.

21.14.2.2 –

Where the installation precludes the operator from seeing the light in its nested position, a means shall be provided to allow the operator to align the light for nesting when the operator is at the operator's position.

21.14.2.3 * –

Appropriate warning labels on the hazards of electrocution shall be installed.

21.14.2.4 –

A means shall be provided to prevent operations that could cause damage to the power supply conductors.

21.14.2.5 –

In the event of a failure of the light tower's raising system while the tower is deployed or being deployed, a means shall be provided to limit the rate of descent in order to prevent injury to equipment or personnel.

21.14.2.6 –

A secondary means of control shall be provided to allow for emergency lowering of the mast.

21.14.2.7 –

Where the tower is powered by the chassis air brake system, the air supply shall be from an auxiliary air circuit that is equipped with a pressure protection valve and an auxiliary air tank(s).

21.14.2.8 * –

An automatic de-energizing means shall be provided so there is no electrical power to the mast or to the light wiring when the mast is in a stowed position.

21.14.2.9 –

The hazard warning light required in Section 10.10 shall be illuminated whenever the light tower is not in the stowed position.

21.14.2.10 –

The operational envelope of the mast shall be automatically illuminated whenever the mast assembly is being raised, lowered, or rotated.

21.14.3 – Labeling.**21.14.3.1 –**

An instruction plate showing the operation of the mast and operational warning signs shall be provided at the operator's position.

21.14.3.2 –

A label shall be provided at the operator's position to indicate the following:

- (1) Extended tower height from the ground
- (2) Bulb replacement data

Statement of Problem and Substantiation for Public Input

Move these requirements to 12.3 to be generic for any masts.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS/BODY TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]	
Public Input No. 371-NFPA 1900-2025 [Section No. 22.13]	
Public Input No. 372-NFPA 1900-2025 [Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8]	

[Public Input No. 373-NFPA 1900-2025 \[New Section after A.12.12.4.4\]](#)

[Public Input No. 369-NFPA 1900-2025 \[New Section after 12.12.4.6\]](#)

[Public Input No. 371-NFPA 1900-2025 \[Section No. 22.13\]](#)

[Public Input No. 372-NFPA 1900-2025 \[Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8\]](#)

[Public Input No. 373-NFPA 1900-2025 \[New Section after A.12.12.4.4\]](#)

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Tue Jul 15 11:16:56 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-409-NFPA 1900-2026](#)

Statement: This text combines 21.14 (light masts) and 22.13 (command center masts) into generic information for any mast.

**Public Input No. 191-NFPA 1900-2025 [Section No. 21.14.2.3]****21.14.2.3***

~~Appropriate warning labels on the hazards~~ Safety sign FAMA 65, which warns of electrocution hazards, shall be installed.

Statement of Problem and Substantiation for Public Input

In most cases, similar wording about safety warning labels was replaced with references to specific FAMA labels from TC0010 in the 2016 edition of NFPA 1901. For some reason this specific instance was missed.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Mon May 19 11:03:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-409-NFPA 1900-2026](#)

Statement: This text combines 21.14 (light masts) and 22.13 (command center masts) into generic information for any mast.



Public Input No. 379-NFPA 1900-2025 [Section No. 21.14.2.9]

21.14.2.9 –

~~The hazard warning light required in Section 10.10 shall be illuminated whenever the light tower is not in the stowed position.~~

Statement of Problem and Substantiation for Public Input

This is already required in 10.10.1(4). Delete text as it is redundant.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 57-NFPA 1900-2024 [Section No. 10.10]</u>	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submission Date: Thu Jul 17 14:49:34 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-409-NFPA 1900-2026

Statement: This text combines 21.14 (light masts) and 22.13 (command center masts) into generic information for any mast.

**Public Input No. 44-NFPA 1900-2024 [Section No. 21.15.6]****21.15.6**

Electrical light towers, floodlights, motors, fixed appliances, and portable generators shall be operated ~~at their full rating or capacity~~ for 30 minutes ~~to ensure proper operation~~ .

Statement of Problem and Substantiation for Public Input

The rating and capacity may be two different values. The proposed wording is more specific and eliminates ambiguity. This section is intended to make sure the devices work and that some amount of continuous operation will not cause overheating.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 11:53:57 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-302-NFPA 1900-2026](#)

Statement: The rating and capacity may be two different values. The proposed wording is more specific and eliminates ambiguity. This section is intended to make sure the devices work and that some amount of continuous operation will not cause overheating.

**Public Input No. 504-NFPA 1900-2025 [Chapter 22]****Chapter****22 Fire****22 Fire Apparatus — Command and Communications (NFPA 1901)****22.****1 General**

If the fire apparatus is equipped with a

separate

command and communications area

or if

it

is used as a totally dedicated command apparatus, it

shall meet the requirements of this chapter.

22.2 ***Location****Location .**

The command

center

and communication area shall be enclosed within a vehicle crew area

or body.

22.3 * — Climate Control.**22.3.1 —**

The command area shall be provided with a heater capable of maintaining the temperature at a minimum of 60°F (16°C) with the fire apparatus's doors closed

meeting the relevant requirements of chapter 11 .

22.**3****3 Lighting .****2—****22.4 * — Noise Levels.**

When the fire apparatus is stopped with all components on the apparatus required for continuous operation at an incident in operation, the noise levels in the command area shall not exceed 80 dBA.

22.5 — Lighting Levels.**22.5.1 —**

If an air conditioner is provided, it shall be capable of maintaining a minimum temperature of 20°F (11°C) below ambient down to 72°F (22°C) with the fire apparatus's doors closed.

22.3.1

The command area shall have a switch control at the door entry area for general entry lighting or automatic dome lighting.

22.**5****3.2 ***

—

—

Lighting levels during command operations shall provide a continuous 25 fc (269 lx) in the command area.

22.**6 * — Command Working Surfaces and Countertop.**

Horizontal working surfaces shall be smooth and shall have corners and edges that will not cause injury or damage when rubbed up against.

~~22.7 – Seating in Command Center~~

~~4 Seating~~

~~22.~~

~~7~~

~~4.4 *~~

~~If seating is provided~~

~~-~~

~~Seating in the command~~

~~center and that same seating is used during mobile operations (moving over the highway), the seat(s) and crew area(s) and communication area designed to be occupied with the vehicle in motion shall comply with Section 11.4 .~~

~~22.~~

~~7~~

~~4 .~~

~~2-~~

~~Storage shall be provided for all seating that is not permanently mounted in the fire apparatus so that the seating can be stored in such a way as to protect all passengers while the fire apparatus is in motion.~~

~~22.7.3 –~~

~~2-~~

~~Seating in the command and communication area not designed to be occupied with the vehicle in motion shall be contained or mounted in compliance with section 11.1.11 Equipment Mounting.~~

~~22.4.3-~~

~~Safety sign FAMA06 shall be visible from each seat that is not equipped with occupant restraint and is therefore not intended to be occupied while the vehicle is in motion.~~

~~22.~~

~~8 * – Cabinets and Equipment Storage.~~

~~Cabinets for the storage of equipment shall be designed and engineered to contain the equipment during periods of transit.~~

~~22.9 – Wall, Ceiling, and Floor Surfaces.~~

~~22.9.1 * –~~

~~The interior surfaces of command areas shall be free of sharp corners, projections, and edges.~~

~~22.9.2 –~~

~~Floor surfaces shall be capable of being routinely cleaned~~

5 Flooring

~~22.5.4~~

~~Floor covering shall be nonpermeable .~~

~~22.~~

~~9.2.1-~~

~~Floor mats or coverings shall be durable and removable for cleaning.~~

~~22.9.2.2 –~~

~~Floor surfaces, walking surfaces, and access steps shall comply with Section 12.6 .~~

~~22.9.2.3 –~~

~~Access handrails shall comply with Section 12.7 .~~

~~22.9.3 –~~

~~Dry-type greaseboards, corkboards, chalk-type boards, or similar bulletin- or command-type wall surfaces shall be fastened in place and shall be replaceable.~~

~~22.10 – Communications and Electrical Consoles.~~

~~22.10.1 * –~~

~~The communications equipment shall be installed in accordance with the component manufacturer's instructions and manuals.~~

~~22.10.2 –~~

~~5.2-~~

~~The floor covering shall cover the entire length and width of the compartment's exposed floor.~~

22.6 Communications, Electrical, and Electronics

~~22.6.4~~

~~If a radio or electrical console is provided, it shall be enclosed on all sides to afford protection to equipment mounted in the console.~~

~~22.~~

~~10.2.1—~~

~~The front surface shall be hinged or bolted in place.~~

~~22.10.2.2 —~~

~~Additional hinged or~~

~~6.2—~~

~~Hinged or removable panels shall be provided, as required, for access to equipment.~~

~~22.~~

~~11.* — Computer Equipment and Installation.~~

~~22.11.1 —~~

~~All computer equipment shall be installed in a manner to reduce shock, vibration, and mechanical injury.~~

~~22.11.2 —~~

~~All equipment not used during transit, such as computer equipment, shall be stored in cabinets or mounted to comply with 11.1.11.~~

~~22.11.3 —~~

~~6.3—~~

~~Electrical outlets specifically for computer use, whether low voltage or line voltage, shall be marked with a label for their intended usage and power output.~~

~~22.~~

~~12— Video Equipment and Installation.~~

~~22.12.1 —~~

~~6.4—~~

~~The purchaser shall detail the exact video equipment that is to be~~

~~mounted~~

~~installed on~~

~~and used with~~

~~the apparatus.~~

~~22.~~

~~12.2—~~

~~If a video monitor is provided, it shall be mounted so as to prevent it from being damaged during transit.~~

~~22.12.3 —~~

~~If the equipment is to be externally mounted, mounting brackets and outlet plugs shall be installed as necessary to accommodate the outside mounting of video equipment.~~

~~22.12.4 —~~

~~Roof access ladders, steps, and safety railings shall meet the requirements of and be installed as required by Chapter 12.~~

~~22.13 — Power Operated Masts.~~

~~Where power operated masts are supplied, the requirements in 22.13.1 through 22.13.7 shall apply.~~

~~22.13.1 —~~

~~The mast shall be designed to sustain the intended tip load with at least a 125-percent safety factor.~~

~~22.13.2 —~~

~~The mast shall withstand a minimum of a 50 mph (80 kph) wind in a raised, unguyed position.~~

~~22.13.3 —~~

~~In the event of a failure of the tower's raising system while the tower is deployed or being deployed, a means shall be provided to limit the rate of descent in order to prevent injury to equipment or personnel.~~

~~22.13.4 —~~

~~A secondary means of control shall be provided to allow for emergency lowering of the mast.~~

~~22.13.5 —~~

~~Where the tower is powered by the chassis air brake system, the air supply shall be from an auxiliary air circuit that is equipped with a pressure protection valve and an auxiliary air tank(s).~~

~~22.13.6 —~~

~~The hazard warning light required in Section 10.10 shall be illuminated whenever the tower is not in the stowed position.~~

~~22.13.7 —~~

~~The operational envelope of the mast shall be automatically illuminated whenever the mast assembly is being raised, lowered, or rotated~~

~~7.Noise Testing~~

~~22.7.1~~

~~At any seat location, the maximum noise level shall be 80 dBA without any warning devices in operation, as measured by the test procedure defined in 49 CFR 393.94(c), "Interior noise levels in power units, test procedure," except that the test shall be performed with the vehicle traveling at a steady speed of 45 mph (72 km/hr) on a level, paved, smooth surface road .~~

Statement of Problem and Substantiation for Public Input

This chapter has been re-written for clarity and conciseness.

In addition, the following have been significantly modified

Climate Control. Requirements for heating and air conditioning are eliminated. The performance values were not meaningful since they did not specify test conditions. We do not specify air conditioning or heating performance for fire apparatus in the rest of the chapters, yet apparatus come with heaters, and if specified, they come with air conditioning. If the committee feels that performance requirements for command and control apparatus are critical, then we need to come up with good criteria and should apply them to all apparatus.

Noise Level. Re-written to provide a minimum noise level using the same test as in chapter 11.1.6, but 10dB more stringent. While the test criteria does not exactly replicate the on-scene environment, it is a repeatable test and will ensure that the command and communication area has a level of sound insulation greater than the minimum required in a standard apparatus. Departments can always specify greater levels of insulation if they wish.

Working Surfaces. This criteria was eliminated as the text provided no measurable requirement

Seating and Equipment Storage. Revised for clarity and to rely on criteria already established in chapter 11.

Floor Covering. Intent was to have flooring that is easily cleaned, but the criteria was not measurable. Borrowed wording from the 1900 ambulance chapter.

Access handrails. Eliminated these sections as the criteria is already covered in chapters 11 and 12.

White-Boards. Eliminated this paragraph as it was not useful. Departments can and do specify what they want. They may want installed white-boards, or perhaps whiteboards mounted on easels. Anything loose will need a means of retaining them during travel, but that is already covered in chapter 11.

Electronic and video equipment mounting. The intent was to mount equipment in a way that it is protected from shock during transport. However there was no measurable criteria for this. The industry installs electronics in mobile applications routinely without special provisions, relying on the component manufacturer to design and test their equipment for resistance to vibration and shock.

Power operated Masts. Eliminated section 22.13. Another PI will move this material to chapter 12. Power operated masts for lighting or cameras or antennas can be found on any apparatus, not just those with command centers.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 16:53:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-240-NFPA 1900-2026](#)

Statement: This chapter has been re-written for clarity and conciseness.

In addition, the following have been significantly modified

Climate Control. Requirements for heating and air conditioning are eliminated. The performance values were not meaningful since they did not specify test conditions. We do not specify air conditioning or heating performance for fire apparatus in the rest of the chapters, yet apparatus come with heaters, and if specified, they come with air conditioning. If the committee feels that performance requirements for command and control apparatus are critical, then we need to come up with good criteria and should apply them to all apparatus.

Noise Level. Re-written to provide a minimum noise level using the same test as in chapter 11.1.6, but 10dB more stringent. While the test criteria does not exactly replicate the on-scene environment, it is a repeatable test and will ensure that the

command and communication area has a level of sound insulation greater than the minimum required in a standard apparatus. Departments can always specify greater levels of insulation if they wish.

Working Surfaces. This criteria was eliminated as the text provided no measurable requirement

Seating and Equipment Storage. Revised for clarity and to rely on criteria already established in chapter 11.

Floor Covering. Intent was to have flooring that is easily cleaned, but the criteria was not measurable. Borrowed wording from the 1900 ambulance chapter.

Access handrails. Eliminated these sections as the criteria is already covered in chapters 11 and 12.

White-Boards. Eliminated this paragraph as it was not useful. Departments can and do specify what they want. They may want installed white-boards, or perhaps whiteboards mounted on easels. Anything loose will need a means of retaining them during travel, but that is already covered in chapter 11.

Electronic and video equipment mounting. The intent was to mount equipment in a way that it is protected from shock during transport. However there was no measurable criteria for this. The industry installs electronics in mobile applications routinely without special provisions, relying on the component manufacturer to design and test their equipment for resistance to vibration and shock.

Power operated Masts. Eliminated section 22.13. Another PI will move this material to chapter 12. Power operated masts for lighting or cameras or antennas can be found on any apparatus, not just those with command centers.

**Public Input No. 371-NFPA 1900-2025 [Section No. 22.13]****22.13 – Power Operated Masts.**

Where power operated masts are supplied, the requirements in 22.13.1 through 22.13.7 shall apply.

22.13.1 –

The mast shall be designed to sustain the intended tip load with at least a 125 percent safety factor.

22.13.2 –

The mast shall withstand a minimum of a 50 mph (80 kph) wind in a raised, unguyed position.

22.13.3 –

In the event of a failure of the tower's raising system while the tower is deployed or being deployed, a means shall be provided to limit the rate of descent in order to prevent injury to equipment or personnel.

22.13.4 –

A secondary means of control shall be provided to allow for emergency lowering of the mast.

22.13.5 –

Where the tower is powered by the chassis air brake system, the air supply shall be from an auxiliary air circuit that is equipped with a pressure protection valve and an auxiliary air tank(s).

22.13.6 –

The hazard warning light required in Section 10.10 shall be illuminated whenever the tower is not in the stowed position.

22.13.7 –

The operational envelope of the mast shall be automatically illuminated whenever the mast assembly is being raised, lowered, or rotated.

Statement of Problem and Substantiation for Public Input

This text combined with 21.14 (light masts) to be 12.13 (power-operated masts).

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS/BODY TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]	
Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]	
Public Input No. 372-NFPA 1900-2025 [Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8]	
Public Input No. 373-NFPA 1900-2025 [New Section after A.12.12.4.4]	
Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]	
Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]	
Public Input No. 372-NFPA 1900-2025 [Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8]	
Public Input No. 373-NFPA 1900-2025 [New Section after A.12.12.4.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jul 15 11:46:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-408-NFPA 1900-2026](#)

Statement: This is being re-written and moved to 12.13 as part of a move with the existing 21.14. Many of these requirements are duplicated and the committee is condensing the requirements and moving them to a more appropriate location in the document.

**Public Input No. 343-NFPA 1900-2025 [New Section after 22.13.7]****22.13.8**

Safety Sign FAMA65, which warns of electrocution hazards, shall be installed.

Statement of Problem and Substantiation for Public Input

Warn of electrocution hazards from command masts, like other masts.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 03 16:11:04 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-408-NFPA 1900-2026](#)

Statement: This is being re-written and moved to 12.13 as part of a move with the existing 21.14. Many of these requirements are duplicated and the committee is condensing the requirements and moving them to a more appropriate location in the document.

**Public Input No. 326-NFPA 1900-2025 [Section No. 23.2.5.1]****23.2.5.1**

Installation of ~~low voltage~~ electrical components shall meet the requirements of ~~Chapter 16~~, and installation of ~~Chapter 10~~ for low voltage and chapter 21 for line voltage ~~electrical~~ components ~~shall meet the requirements of Chapter 25~~.

Statement of Problem and Substantiation for Public Input

Correct chapter references and eliminate multiple requirements (shalls) in a single sentence.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Sun Jun 29 15:08:09 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-241-NFPA 1900-2026](#)

Statement: Correct chapter references and eliminate multiple requirements (shalls) in a single sentence.

**Public Input No. 521-NFPA 1900-2025 [Section No. 23.2.5.1]****23.2.5.1**

Installation of low voltage electrical components shall meet the requirements of ~~Chapter 16~~ Chapter 10 , and installation of line voltage electrical components shall meet the requirements of ~~Chapter 25~~ Chapter 21 .

Statement of Problem and Substantiation for Public Input

Correct chapter number references

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 18:29:09 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-241-NFPA 1900-2026

Statement: Correct chapter references and eliminate multiple requirements (shalls) in a single sentence.

**Public Input No. 345-NFPA 1900-2025 [Section No. 23.2.5.4.1]****23.2.5.4.1**

All screws, pins, bolts, and other fasteners whose ~~failure~~ loosening would create a hazardous condition for personnel or equipment shall be equipped with locking devices.

Statement of Problem and Substantiation for Public Input

A locking device prevents loosening, not failure. If a bolt brakes (fails), lock nuts or liquid locking compounds will not help. They prevent the fasteners from working loose.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 03 16:53:57 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-242-NFPA 1900-2026](#)

Statement: Locking devices can keep the fastener from loosening, but will not prevent a hazard if the fastener or pin fails. Rewording appropriately.

**Public Input No. 523-NFPA 1900-2025 [Section No. 23.2.5.4.1]****23.2.5.4.1**

All screws, pins, bolts, and other fasteners ~~whose failure would~~ which, if they came loose, would create a hazardous condition for personnel or equipment shall be equipped with locking devices.

Statement of Problem and Substantiation for Public Input

Locking devices can keep the fastener from loosening, but will not prevent a hazard if the fastener or pin fails. Rewording appropriately.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 18:33:51 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-242-NFPA 1900-2026](#)

Statement: Locking devices can keep the fastener from loosening, but will not prevent a hazard if the fastener or pin fails. Rewording appropriately.

**Public Input No. 524-NFPA 1900-2025 [Section No. 23.5.1]****23.5.**

1 Transportable

1 Transportable Air Tanks.**23.5.1.**

1—

1

Transportable air tanks shall comply with 49 CFR 178.37, "Specification 3AA and 3AAX seamless steel cylinders," or 29 CFR 1910.169, "Air receivers."

UN/ISO 9809-2 Gas Cylinder – Design, construction and testing of refillable seamless steel gas cylinders and tubes, or the ASME boiler and pressure vessel code, section VIII Division I.

23.5.1.2

* —

The cylinders

Cylinders shall have the data required by the UN/ ISO/ DOT or ASME permanently stamped or labeled (composite cylinders cannot be stamped) according to the regulating agency they are certified under.

23.5.1.3

This data shall include but not be limited to the working pressure, date of manufacture, and date of the most recent test.

23.5.1.4

Cylinders that are not new shall be verified by the supplier that they are acceptable for breathing air use.

23.5.1.

3

5

Relief valves on transportable air tanks shall be of the ASME type on ASME cylinders and of the UN/ ISO/ DOT type on UN/ ISO/ DOT cylinders or equal for the rated pressure.

Statement of Problem and Substantiation for Public Input

SCBA cylinders can be manufactured to any of these standards. Split up requirements to their own shall statements per NFPA manual of style,

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 18:39:28 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-243-NFPA 1900-2026

Statement: SCBA cylinders can be manufactured to any of these standards. Split up requirements to their own shall statements per NFPA manual of style,

**Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]****23.5.1.1**

Transportable air tanks shall comply with 49 CFR 178.37, "Specification 3AA and 3AAX seamless steel cylinders," or 29 CFR 1910.169, "Air receivers." UN/ISO 9809-2, "Gas cylinders - Design, construction and testing of refillable seamless steel gas cylinders and tubes," or the "ASME Boiler and Pressure Vessel Code, Section VIII Division I."

Statement of Problem and Substantiation for Public Input

DOT cylinders have been largely replaced by almost identical UN/ISO cylinders. Generally UN/ISO cylinders are DOT acceptable. 29 CFR 1910.169 "Air Receivers" is an OSHA section that does not apply and explicitly says it does not apply to automotive applications. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 185-NFPA 1900-2025 [Section No. 3.3.13]	
Public Input No. 186-NFPA 1900-2025 [New Section after 3.3.154]	
Public Input No. 188-NFPA 1900-2025 [Section No. A.23.5]	
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	
Public Input No. 310-NFPA 1900-2025 [Section No. 2.3.20]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Sun May 18 17:51:37 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: DOT cylinders have been largely replaced by almost identical UN/ISO cylinders. Generally UN/ISO cylinders are DOT acceptable. 29 CFR 1910.169 "Air Receivers" is an OSHA section that does not apply and explicitly says it does not apply to automotive applications.

**Public Input No. 344-NFPA 1900-2025 [Sections 23.5.1.2, 23.5.1.3]****Sections 23.5.1.2, 23.5.1.3****23.5.1.2***

The cylinders shall have the data required by the UN/ISO/ DOT or ASME- ASME standard permanently stamped ~~or labeled~~ ~~(composite cylinders cannot be stamped)~~ according to the regulating agency they are certified under.

23.5.1.2.1 _ This data shall include but not be limited to the working pressure, date of manufacture, and date of the most recent test.

23.5.1.2.2 Cylinders that are not new shall be verified by the supplier that they are acceptable for breathing air use.

23.5.1.3

Relief valves on transportable air tanks shall be of the ASME type on ASME cylinders and of the UN/ISO/ DOT type on UN/ISO/ DOT cylinders or equal for the rated pressure.

Statement of Problem and Substantiation for Public Input

23.5.1.1 had 3 sentences and 3 shalls. break this up per Manual of Style.

Add ISO to UN/DOT description.

Composite cylinder comment not relevant to any of these air tank types.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu Jul 03 16:47:41 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-243-NFPA 1900-2026

Statement: SCBA cylinders can be manufactured to any of these standards. Split up requirements to their own shall statements per NFPA manual of style,



Public Input No. 29-NFPA 1900-2024 [Section No. 23.9.1.1]

23.9.1.1

The fill station shall fully enclose the cylinder during filling to contain the fragments of a cylinder(s) and the fill station, that would be considered hazardous to users or bystanders, if a cylinder ruptures.

Statement of Problem and Substantiation for Public Input

It is necessary that the fill station also prevent internal parts of the fill station from exiting that could injure a person.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 30-NFPA 1900-2024 [Section No. 23.9.6.2]	

Submitter Information Verification

Submitter Full Name: Christopher James

Organization: UL LLC

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 12:55:00 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.

**Public Input No. 390-NFPA 1900-2025 [Section No. 23.9.1.3]****23.9.1.3**

The fill station shall direct the intial concussive air blast away from the operator and bystanders.

Statement of Problem and Substantiation for Public Input

Many refill stations redirect the concussive blast so that the initial force is directed down under the refill station but then redirects outward. With the brunt of the immediate concussive blast being directed straight down and away from the user or bystanders, this section needs to be revised to clarify the aforementioned construction that is common.

Submitter Information Verification

Submitter Full Name: Christopher James

Organization: UL LLC

Street Address:

City:

State:

Zip:

Submittal Date: Fri Aug 08 09:51:41 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.

**Public Input No. 346-NFPA 1900-2025 [Section No. 23.9.6.1.1 [Excluding any Sub-Sections]]**

If the enclosed air fill station is for SCBA cylinders, it shall be tested as described in 23.9.6.1.1.1- ~~and~~ through 23.9.6.1.1.2 3.

Statement of Problem and Substantiation for Public Input

Correct reference.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 03 17:02:40 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.

**Public Input No. 525-NFPA 1900-2025 [Sections 23.9.6.1.1, 23.9.6.1.2]****Sections 23.9.6.1.1, 23.9.6.1.2****23.9.6.1.1**

If the enclosed air fill station is for SCBA cylinders, it shall be tested as described in 23.9.6.1.1.1- ~~and~~ through 23.9.6.1.1.2 3 .

23.9.6.1.1.1

The test shall include pressurizing a composite 5500 psi (37,921 kPa) SCBA cylinder that is capable of holding at least 111 SCF (3143 L) of air at 6050 psi (41,713 kPa) to failure.

23.9.6.1.1.2

The failure shall occur when the pressure in the cylinder is not less than 6050 psi (41,713 kPa).

23.9.6.1.1.3

A failure of the cylinder shall be induced by mechanical impact or explosive device.

23.9.6.1.2

If the enclosed air fill station is for SCUBA cylinders, it shall be tested as described in 23.9.6.1.2.1- ~~and~~ through 23.9.6.1.2.3.

23.9.6.1.2.1

The test shall include pressurizing a SCUBA cylinder that is capable of holding at least 80 ft³ (2265 L) of air at 3000 psi (20,685 kPa) to failure.

23.9.6.1.2.2

Failure of a pressurized SCUBA cylinder shall occur when the pressure in the cylinder is not less than 3000 psi (20,685 kPa).

23.9.6.1.2.3

A failure of the cylinder shall be induced by mechanical impact or explosive device.

Statement of Problem and Substantiation for Public Input

Correcting errors in paragraph referencing.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 18:49:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.

**Public Input No. 391-NFPA 1900-2025 [Section No. 23.9.6.1.1.3]****23.9.6.1.1.3**

A failure of the cylinder shall be induced by ~~mechanical impact or explosive device.~~ means defined by the manufacturer.

Statement of Problem and Substantiation for Public Input

Defining that the failure of the cylinder shall occur by means of a mechanical impact or explosive device is too restrictive. Some manufacturers have used remotely operated drills, grinders, etc. This proposal removes the limitations and allows for any acceptable means developed by the manufacturer and acceptable to any third party certification bodies.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 392-NFPA 1900-2025 [Section No. 23.9.6.1.2.3]	

Submitter Information Verification

Submitter Full Name: Christopher James

Organization: UL LLC

Street Address:

City:

State:

Zip:

Submittal Date: Fri Aug 08 09:56:00 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.

**Public Input No. 347-NFPA 1900-2025 [Section No. 23.9.6.1.2 [Excluding any Sub-Sections]]**

If the enclosed air fill station is for SCUBA cylinders, it shall be tested as described in 23.9.6.1.2.1- ~~and~~ through 23.9.6.1.2.3.

Statement of Problem and Substantiation for Public Input

Correct section reference.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 03 17:05:24 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.

**Public Input No. 392-NFPA 1900-2025 [Section No. 23.9.6.1.2.3]****23.9.6.1.2.3**

A failure of the cylinder shall be induced by ~~mechanical impact or explosive device~~ means defined by the manufacturer .

Statement of Problem and Substantiation for Public Input

Defining that the failure of the cylinder shall occur by means of a mechanical impact or explosive device is too restrictive. Some manufacturers have used remotely operated drills, grinders, etc. This proposal removes the limitations and allows for any acceptable means developed by the manufacturer and acceptable to any third party certification bodies.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 391-NFPA 1900-2025 [Section No. 23.9.6.1.1.3]	

Submitter Information Verification

Submitter Full Name: Christopher James

Organization: UL LLC

Street Address:

City:

State:

Zip:

Submittal Date: Fri Aug 08 10:01:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.

**Public Input No. 30-NFPA 1900-2024 [Section No. 23.9.6.2]****23.9.6.2**

The testing shall prove the following:

- (1) The air refill station is capable of containing all hazardous fragments of a failed cylinder, excluding parts of the cylinder such as carbon fibers .
- (2) The cylinders in adjacent chambers do not rupture.
- (3) The venting provisions direct the initial air-concussive release away from the operator.
- (4) The air refill station is capable of containing any internal fragments or parts of the air refill station that would be considered hazardous.
- (5) There is no external fragments or parts of the air refill station released outside of the profile of the air refill station during the rupture of the cylinder.

Statement of Problem and Substantiation for Public Input

In relation to PI-29, the proposed language includes requirements for disallowing any internal and external fragments of the air refill station from becoming a danger to a person. It also clarifies that carbon fiber is allowed to be ejected from the air refill station.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 29-NFPA 1900-2024 [Section No. 23.9.1.1]	

Submitter Information Verification

Submitter Full Name: Christopher James

Organization: UL LLC

Street Address:

City:

State:

Zip:

Submission Date: Wed Oct 23 13:00:03 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-398-NFPA 1900-2026](#)

Statement: The committee has made these changes based on the several public inputs that were submitted to this section of text. The committee also believes that they have addressed those concerns that have been identified by the public so as to create a safe means to conduct cylinder tests as well as to correct the cylinder design requirements.



Public Input No. 526-NFPA 1900-2025 [Section No. 23.14]

23.14* Breathing Air System Testing and Delivery.

23.14.1

The complete air system shall be tested by the final system installer after its installation on the fire apparatus is complete, using the testing procedure prescribed by the system manufacturer.

23.14.2

The following ~~items~~ shall be ~~tested or verified~~ performed on all air systems:

- (1) Pressure test the system to its maximum operational pressure and check all connections made as a part of the installation for leaks with a leak detection device, which could include bubble fluid or electronic means.
- (2) Verify that any leaks detected during the testing in 23.14.2(1) are repaired.
- (3) Visually verify the relief valve set points and working pressure of the air tank.
- (4) Verify the accuracy of all pressure gauges.
- (5) Fully test the operational capabilities of the fill station as established by the manufacturer of the fill station.
- (6) ~~Seal all fill adapter connections to eliminate the introduction of contaminants prior to shipment.~~

23.14.3

If the system's air supply includes a compressor/purification system, the following additional items shall be tested or verified:

- (1) Confirm that the fluid levels are at the manufacturer's recommended levels, including the lubricant and coolant if the system is liquid cooled.
- (2) Verify the expiration date of the purification filters and cartridges and that they have been installed as required by the manufacturer of the system.
- (3) Operate the air compressor for a minimum of 2 hours or the period required to completely fill the onboard air tanks, whichever is longer.
- (4) Confirm that all compressor interstage pressures are within guidelines as established by the compressor manufacturer.
- (5) Confirm the operation of the compressor shutdown switch at the pressure requested by the purchaser.
- (6) Confirm the set point of the final pressure safety relief valve and pressure maintaining valve.
- (7) Confirm the factory set limits of all electrical shutdown devices, including low oil pressure, automatic condensate drain system, high air temperature, excessive processed air moisture, high carbon monoxide, and motor amperage draw.
- (8) Confirm that the breathing air system is installed in accordance with the breathing air compressor manufacturer's requirements and drawings and confirm that the cooling airflow is adequate.

23.14.4 Breathing Air Quality.

23.14.4.1*

Prior to delivery of the apparatus equipped with a breathing air system to the end user, the final system installer shall draw an air sample from the breathing air system and submit the sample to be tested in accordance with NFPA 1989.

23.14.4.2

The breathing air shall meet the air quality standards defined in NFPA 1989.

23.14.5— Documentation on Delivery

23.14.5.1

The results of all tests, including the air quality analysis, shall be documented. ~~and~~

23.14.5.2

Test results shall be delivered with the fire apparatus.

23.14.6— Delivery Conditions

23.14.6.1

The contractor shall deliver the apparatus with all air tanks, piping, hose, reels, and other fixed equipment charged with breathing air to a gauge pressure of at least 40 psi (275 kPa).

23.15.6.2

The contractor shall deliver the apparatus with all fill adapter connections temporarily sealed to eliminate the introduction of contaminants during shipment.

Statement of Problem and Substantiation for Public Input

The requirement to seal fill adapters is currently hidden within a test requirement. Move it to the end to accompany the other delivery requirements and add headings. Split up sentences containing multiple shall statements.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 18:55:07 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-244-NFPA 1900-2026](#)

Statement: The requirement to seal fill adapters is currently hidden within a test requirement. Move it to the end to accompany the other delivery requirements and add headings. Split up sentences containing multiple shall statements.

**Public Input No. 527-NFPA 1900-2025 [Section No. 23.15.1]****23.15.1**

Prior to delivery of an apparatus with a ~~low~~ dedicated low pressure utility air compressor and piping (not supplied by chassis air) , the final installer shall test and certify the performance of the system.

Statement of Problem and Substantiation for Public Input

The current wording could imply that any system using chassis air would need this testing. Air brake air pressure is already tested and does not need this procedure.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 19:03:34 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-245-NFPA 1900-2026](#)

Statement: The current wording could imply that any system using chassis air would need this testing. Air brake air pressure is already tested and does not need this procedure.



Public Input No. 68-NFPA 1900-2025 [New Section after 24.1]

Mounting.

Winch sub-frames that allow a winch to be permanently installed shall be designed to provide at least 2.0 to 1 no-yield factor over the load rating of the winch.

Statement of Problem and Substantiation for Public Input

The rationale for this requirement comes from an incident in our agency where an electric winch was being used to control-roll a large vehicle during training. The line was doubled back to the winch sub-frame using a snatch block, which in effect doubled the winch capacity onto the winch sub-frame. This resulted in a sudden, catastrophic failure of the sub-frame. Even though the manufacturer had posted in their operator's manual that the winch was only to be used in a straight-line configuration, the ability to double the line back and connect to the winch sub-frame's anchor point means this is a safety issue that should be addressed.

Submitter Information Verification

Submitter Full Name: John Burruss

Organization: EPEC Services, LLC

Street Address:

City:

State:

Zip:

Submission Date: Wed Feb 05 13:08:27 EST 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-247-NFPA 1900-2026](#)

Statement: 24.1.1 - Installation on a fire apparatus may have requirements not identified by the winch manufacturer. Ultimately the apparatus manufacturer is liable for the design. Good advice for prudent manufacturing, but not a necessary statement. Statement removed.

24.1.2 - Ability to totally prevent damage is not measurable. Modify the text to minimize risk rather than prevent.

24.1.3 - This statement has no definable or measurable requirement. Statement removed

**Public Input No. 528-NFPA 1900-2025 [Sections 24.1.1, 24.1.2, 24.1.3]****Sections 24.1.1, 24.1.2, 24.1.3****24.1.1***

~~The winch shall be designed for the intended use and shall be installed in accordance with the winch manufacturer's recommendations.~~

24.1.2 –

~~All winches shall be equipped with rollers, guides, or both to prevent damage to the winch wire or synthetic guide the rope or cable onto the apparatus drum .~~

24.1.3 –

~~All rollers and guides shall be designed to match the winch capacity and rope size.~~

Statement of Problem and Substantiation for Public Input

24.1.1 - Installation on a fire apparatus may have requirements not identified by the winch manufacturer. Ultimately the apparatus manufacturer is liable for the design. Good advice for prudent manufacturing, but not a necessary statement. Statement removed.

24.1.2 - Ability to totally prevent damage is not measurable. Modify the text to minimize risk rather than prevent.

24.1.3 - This statement has no definable or measurable requirement. Statement removed

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Sep 02 22:50:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-247-NFPA 1900-2026](#)

Statement: 24.1.1 - Installation on a fire apparatus may have requirements not identified by the winch manufacturer. Ultimately the apparatus manufacturer is liable for the design. Good advice for prudent manufacturing, but not a necessary statement. Statement removed.

24.1.2 - Ability to totally prevent damage is not measurable. Modify the text to minimize risk rather than prevent.

24.1.3 - This statement has no definable or measurable requirement. Statement removed

**Public Input No. 545-NFPA 1900-2025 [Section No. 24.2]****24.**

~~2 Winch~~

2 Winch Wire or Synthetic Rope.**24.2.**

~~1~~

1

~~The~~

~~winch shall have a minimum~~

~~wire rope or synthetic rope~~

~~length of 75 ft (22 m).~~

24.2.2 –

~~The wire rope or synthetic rope~~

~~shall be of a type and size recommended by the winch manufacturer.~~

24.2.

~~3~~

2

~~The wire rope or synthetic rope assembly, including all hardware such as clevises, hooks, and snatch blocks provided for attachment to the winch, shall have a design load rating greater than the line pull capacity of the winch.~~

Statement of Problem and Substantiation for Public Input

There is no apparent reason to be requiring a minimum rope or cable length. The length of the rope or cable should be determined by the fire department based on the expected use of the winch.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 14:57:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-248-NFPA 1900-2026](#)

Statement: There is no apparent reason to be requiring a minimum rope or cable length. The length of the rope or cable should be determined by the fire department based on the expected use of the winch.

**Public Input No. 348-NFPA 1900-2025 [Section No. 24.4.1]****24.4.1* Controls.**

Operation of the winch shall be from a remote location at least 12 ft (4 m) from the winch or within an enclosed area.

Statement of Problem and Substantiation for Public Input

Metric conversion missing.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu Jul 03 17:10:42 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-249-NFPA 1900-2026](#)

Statement: Metric conversion missing.

**Public Input No. 529-NFPA 1900-2025 [Section No. 24.4.2]**

24.4.2 – Power Supply.

24.4.2.1 –

Dedicated power and ground circuits shall be utilized.

24.4.2.2 –

Wiring shall be both of the following:

- (1) ~~Sized in accordance with the winch manufacturer's installation instructions~~
- (2) ~~In compliance with Chapter 16~~

Statement of Problem and Substantiation for Public Input

“Dedicated power and ground” is a vague requirement. Dedicated from which point? All the way to the battery? The apparatus manufacturer is liable for their design and should be capable of deciding how to wire a winch. “Sized in accordance to the winch manufacturers installation instructions” is not a performance requirement. Remove this section.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Sep 03 09:47:33 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-407-NFPA 1900-2026](#)

Statement: “Dedicated power and ground” is a vague requirement. Dedicated from which point? All the way to the battery? The apparatus manufacturer is liable for their design and should be capable of deciding how to wire a winch. “Sized in accordance to the winch manufacturers installation instructions” is not a performance requirement. Remove this section.

**Public Input No. 327-NFPA 1900-2025 [Section No. 24.4.2.2]****24.4.2.2**

Wiring shall be both of the following:

- (1) Sized in accordance with the winch manufacturer's installation instructions
- (2) In compliance with ~~Chapter 46~~ Chapter 10

Statement of Problem and Substantiation for Public Input

Correct chapter reference.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Sun Jun 29 15:12:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: Since FR 407 deletes this section, there is no need to update the chapter reference.

**Public Input No. 468-NFPA 1900-2025 [Section No. 24.4.2.2]****24.4.2.2**

Wiring shall be both of the following:

- (1) Sized in accordance with the winch manufacturer's installation instructions
- (2) In compliance with ~~Chapter 46~~ Chapter 10

Statement of Problem and Substantiation for Public Input

Incorrect chapter reference. This should be referring to chapter 10, Low Voltage Electrical Systems and Warning Devices.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 12:41:08 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: Since FR 407 deletes this section, then there is no need to update the chapter reference.

**Public Input No. 530-NFPA 1900-2025 [Section No. 24.4.4]****24.4.4 Electric Power for Removable Winches.****24.4.4.1**

The electrical power supply(ies) from the apparatus to the removable winch shall terminate at a quick disconnect receptacle with a connector plug.

24.4.4.2

The receptacle shall have a label indicating its use.

24.4.4.3 –

~~The power cord from the receptacle to the winch shall be sized for the power requirements of the winch.~~

24.4.4.4 –

~~The power cord shall be highly flexible and shall be protected from mechanical damage.~~

Statement of Problem and Substantiation for Public Input

24.4.4.3 - Wire sizing requirements are included in chapter 10. Remove this statement

24.4.4.4 - This statement provides no measurable requirement. Remove this statement

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 09:52:28 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-252-NFPA 1900-2026](#)

Statement: 24.4.4.3 - Wire sizing requirements are included in chapter 10. Remove this statement

24.4.4.4 - This statement provides no measurable requirement. Remove this statement

**Public Input No. 349-NFPA 1900-2025 [Section No. 24.5.2]****24.5.2**

Operation of the hydraulic winch shall be from a remote location at least 12 ft (4 m) from the winch or within an enclosed area.

Statement of Problem and Substantiation for Public Input

Metric conversion missing.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu Jul 03 17:12:38 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-250-NFPA 1900-2026](#)

Statement: Metric conversion missing.

**Public Input No. 531-NFPA 1900-2025 [Section No. 24.5.2]****24.5.2**

Operation of the hydraulic winch shall be from a remote location at least 12 ft (4 m) from the winch or within an enclosed area.

Statement of Problem and Substantiation for Public Input

Add missing metric units

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 09:56:56 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-250-NFPA 1900-2026](#)

Statement: Metric conversion missing.

**Public Input No. 485-NFPA 1900-2025 [Section No. 25.2]****25.2 – Classification of Trailers.**

Trailers shall be classified as Type I, Type II, or Type III.

25.2.1 * –

Trailers that are designed to remain connected to their tow vehicle throughout the response event and that are dependent on the tow vehicle to provide the required electrical power and conspicuity shall meet the requirements of this chapter for Type I trailers.

25.2.2 * –

Trailers that are designed to allow separation from their tow vehicle after arrival at the response event and that are not dependent on the tow vehicle to provide the required electrical power and conspicuity shall meet the requirements of this chapter for Type II trailers.

25.2.3 * –

Open trailers designed to transport other vehicles, equipment, or containers that will be removed from the trailer after arrival at the response event and that will not be blocking the right-of-way during the incident shall meet the requirements of this chapter for Type III trailers.

Statement of Problem and Substantiation for Public Input

These are all definitions, suggest moving to Chapter 3.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 13:47:06 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-253-NFPA 1900-2026](#)

Statement: The committee is leaving the text in Chapter 25. If this text were to be moved to the definitions section the "shall" statements would be lost. The committee did believe that headings for each paragraph would help the reader.

**Public Input No. 547-NFPA 1900-2025 [Section No. 25.7]**

25.7 Suspension and Wheels.

25.7.1—

Each load-bearing tire and rim shall not carry a weight in excess of the recommended load for the operation of the tires used, as published in *Tire and Rim Association — Year Book* and as recommended by the tire manufacturer.

25.7.2 *

Any trailer with an angle of departure of less than 8 degrees shall be equipped with means to ~~prevent damage~~ minimize the risk of damage to the trailer if the rear contacts the ground.

Statement of Problem and Substantiation for Public Input

25.7.1 - Not needed as it is already a requirement from FMVSS.

25.7.2 - Damage will depend on the severity of the incident, so it cannot be prevented. Means can be taken to minimize damage through the use of guards or prudent design.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Sep 03 15:05:33 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-254-NFPA 1900-2026](#)

Statement: 25.7.1 - Not needed as it is already a requirement from FMVSS. 25.7.2 - Damage will depend on the severity of the incident, so it cannot be prevented. Means can be taken to minimize damage through the use of guards or prudent design.

**Public Input No. 548-NFPA 1900-2025 [Section No. 25.9.1]****25.9.1**

For trailers classified as Type II or Type III, four wheel chocks shall be ~~mounted in readily accessible locations~~ provided .

Statement of Problem and Substantiation for Public Input

Mounting may not be necessary, and readily accessible is not measurable.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Sep 03 15:13:24 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-255-NFPA 1900-2026](#)

Statement: Mounting may not be necessary, and readily accessible is not measurable.

**Public Input No. 350-NFPA 1900-2025 [Section No. 25.10.2]****25.10.2**

If the trailer is classified as Type I or Type II, it shall ~~meet the requirements of~~ provide input to the Hazard Light as defined in Section 10.10.

Statement of Problem and Substantiation for Public Input

The trailer does not need to have a hazard light in the driver's compartment of the trailer, just provide inputs to the hazard light in the tow vehicle.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu Jul 03 17:16:04 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-46-NFPA 1900-2026](#)

Statement: Section 10.10 is the Hazard Light requirement, meaning that a light needs to illuminate in the cab showing the driver that there is a compartment door not closed or a feature not stowed. While this is a good intention, it is not practical. Compartment doors and switches on the trailer would need to pass a signal through the trailer connection to make this happen. This standard does not provide any guidance on which circuit to standardize on, if there is even one available in the trailer connection. So even if the trailer would work with one apparatus there is no means to ensure it would work with any other apparatus.

**Public Input No. 549-NFPA 1900-2025 [Section No. 25.10.2]****25.10.2 –**

~~If the trailer is classified as Type I or Type II, it shall meet the requirements of Section 10.10 .~~

Statement of Problem and Substantiation for Public Input

Section 10.10 is the Hazard Light requirement, meaning that a light needs to illuminate in the cab showing the driver that there is a compartment door not closed or a feature not stowed. While this is a good intention, it is not practical. Compartment doors and switches on the trailer would need to pass a signal through the trailer connection to make this happen. This standard does not provide any guidance on which circuit to standardize on, if there is even one available in the trailer connection. So even if the trailer would work with one apparatus there is no means to ensure it would work with any other apparatus. Remove this requirement as a minimum standard and allow the department to specify this level of complexity if it is desired.

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Sep 03 15:15:21 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-46-NFPA 1900-2026](#)

Statement: Section 10.10 is the Hazard Light requirement, meaning that a light needs to illuminate in the cab showing the driver that there is a compartment door not closed or a feature not stowed. While this is a good intention, it is not practical. Compartment doors and switches on the trailer would need to pass a signal through the trailer connection to make this happen. This standard does not provide any guidance on which circuit to standardize on, if there is even one available in the trailer connection. So even if the trailer would work with one apparatus there is no means to ensure it would work with any other apparatus.

**Public Input No. 551-NFPA 1900-2025 [Section No. 25.10.4.2]****25.10.4.2**

Umbilical cables shall be installed and supported to ~~prevent~~ minimize the risk of abrasion or chafing damage during normal operation of the trailer.

Statement of Problem and Substantiation for Public Input

Damage will depend on the severity of the incident, so it cannot be prevented. Means can be taken to minimize damage through the use of guards or prudent design.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 15:30:33 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-256-NFPA 1900-2026

Statement: Damage will depend on the severity of the incident, so it cannot be prevented. Means can be taken to minimize damage through the use of guards or prudent design.

**Public Input No. 351-NFPA 1900-2025 [Section No. 25.10.6.3]****25.10.6.3**

If the trailer has interior spaces where a person can walk, the trailer shall be equipped with interior lighting that meets the requirements of 10.9.4 and 10.9.5.3.

Statement of Problem and Substantiation for Public Input

10.9.4 provides for lighting at the surface of seat cushions. 10.9.5.3 provides for lighting on the floor of compartments.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu Jul 03 17:20:31 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-257-NFPA 1900-2026

Statement: Need to be lighting the floor of the compartment.

**Public Input No. 552-NFPA 1900-2025 [Section No. 25.10.6.3]****25.10.6.3**

If the trailer has interior spaces where a person can walk, the trailer shall be equipped with interior lighting that meets the requirements of 10.9.4 and 10.9.5.3.

Statement of Problem and Substantiation for Public Input

Need to be lighting the floor of the compartment.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: Chassis Task Group

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 15:32:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-257-NFPA 1900-2026](#)

Statement: Need to be lighting the floor of the compartment.

**Public Input No. 469-NFPA 1900-2025 [Section No. 26.1]****26.1 Brush Rails.***

A.26.1 Brush Rails are a cage type structure following the body lines of the apparatus to protect the body from damage, sometimes called sweeps or limb risers.

If brush rails are installed on the fire apparatus, they shall meet the requirements of 26.1.1 through 26.1.4.

26.1.1

Rails shall be supported directly by members attached to the vehicle chassis frame.

26.1.2

The rails shall be designed for replacement, if damaged, or for removal for servicing or repairing the vehicle chassis or body without the use of welding or cutting equipment.

26.1.3

The rails shall not impede the normal opening of engine enclosures, access to the driving and crew compartment(s), access to body storage compartments, or access to firefighting equipment.

26.1.4

The rails shall not block the full function of any of the vehicle lighting systems, including normal travel lights, warning lights, and work area lights on the vehicle.

Statement of Problem and Substantiation for Public Input

Brush rails could be mistakenly interpreted to mean the item commonly called rock sliders, side steps, running boards or nerf bars attached to the lower part of the chassis below the doors.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NWCG Mobile Equipment Subcommittee

Street Address:

City:

State:

Zip:

Submission Date: Thu Aug 28 12:45:42 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This term will be added to the definitions chapter.

**Public Input No. 396-NFPA 1900-2025 [New Section after 26.1.4]**

The rails shall be fabricated from material that will not cause galvanic corrosion when installed.

Statement of Problem and Substantiation for Public Input

Requirement previously included in component protection is also appropriate for brush rails.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 20 15:17:51 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee believes that this is already accomplished by the current 12.8.1 of this standard.

**Public Input No. 397-NFPA 1900-2025 [New Section after 26.2.6]**

The guards shall be fabricated from material that will not cause galvanic corrosion when installed.

Statement of Problem and Substantiation for Public Input

Requirement previously included for component protection also applicable to grille guards.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 20 15:22:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee believes that this is already accomplished by the current 12.8.1 of this document.

**Public Input No. 192-NFPA 1900-2025 [Section No. 26.3.1]****26.3.1**

Skid plates shall ~~be installed on~~ protect nonmovable components that protrude below the normal truck chassis parts.

Statement of Problem and Substantiation for Public Input

This is clearer, more accurate language. Skid plates are not necessarily installed ON the components they protect. Often skid plates are installed on the vehicle chassis to protect more delicate components such as the engine oil pan.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Mon May 19 12:17:36 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The PI changes the intent of the requirement to install skip plates on stationary surfaces. In addition, skid plates can also protect movable components.

**Public Input No. 398-NFPA 1900-2025 [Section No. 26.3.1]****26.3.1**

Skid plates shall be installed on ~~nonmovable~~ stationary surfaces to protect components that protrude below the normal truck chassis parts.

Statement of Problem and Substantiation for Public Input

Clarifying language not changing meaning or purpose

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 20 15:33:29 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-94-NFPA 1900-2026](#)

Statement: This change serves to clarify the requirement and is not changing meaning or purpose of this requirement. There has been confusion as to where the skid plates needed to be placed.

**Public Input No. 399-NFPA 1900-2025 [New Section after 26.3.5]**

The plates shall be fabricated from material that will not cause galvanic corrosion when installed.

Statement of Problem and Substantiation for Public Input

Requirement previously included for component protection also applicable to skid plates

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 20 15:35:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-95-NFPA 1900-2026](#)

Statement: The committee is deleting this section of text as it is design restrictive in nature. The committee is also going to consider adding new annex text to the existing 26.3.

**Public Input No. 400-NFPA 1900-2025 [Section No. 26.4.2]****26.4.2**

The guards shall be fabricated from ~~metal~~ material that will not cause galvanic corrosion when installed.

Statement of Problem and Substantiation for Public Input

Preferred word choice

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 20 15:44:57 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is already accomplished in 12.8.1 of this document.

**Public Input No. 430-NFPA 1900-2025 [Section No. 26.4.4]****26.4.4 –**

The guards shall be made of material with a wall thickness of no less than ~~3~~/~~16~~ in. (4.78 mm).

Statement of Problem and Substantiation for Public Input

Duplicative requirement and design and material restrictive. Adequate protection is achieved as long as the performance in 26.4.3 requirement is met.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Mon Aug 25 14:15:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-95-NFPA 1900-2026](#)

Statement: The committee is deleting this section of text as it is design restrictive in nature. The committee is also going to consider adding new annex text to the existing 26.3.

**Public Input No. 193-NFPA 1900-2025 [Section No. 27.2.4]****27.2.4**

If separated, the cab and the crew compartment body bulkheads shall have an aligned opening of at least 150 in.²
(96 97 ,780 mm 000 mm²).

Statement of Problem and Substantiation for Public Input

Per the Manual of Style 13.4.1 and D.8.3, unit conversions should be to the same level of precision. Even 97,000 suggests a slightly higher level of precision than 150.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Mon May 19 12:23:11 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-96-NFPA 1900-2026](#)

Statement: Per the Manual of Style 13.4.1 and D.8.3, unit conversions should be to the same level of precision. Even 97,000 suggests a slightly higher level of precision than 150.

**Public Input No. 431-NFPA 1900-2025 [New Section after 27.4.10]**

Door Locks and Door Retention Components shall meet FMVSS 206.

Statement of Problem and Substantiation for Public Input

Restate federal vehicle requirements

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Mon Aug 25 14:18:20 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-349-NFPA 1900-2026](#)

Statement: Restate federal vehicle requirements for the crew compartment (apparatus body).

**Public Input No. 432-NFPA 1900-2025 [New Section after 27.7]**

Seat belts shall be installed in accordance with 11.1 to 11. 1.7

Statement of Problem and Substantiation for Public Input

Requires seatbelts for passengers in the apparatus body to be the same as seatbelts in the chassis cab

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Mon Aug 25 14:22:07 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This is redundant and already addressed within the current standard as 11.1 to 11.1.7 already applies to crew areas for wildland apparatus.

**Public Input No. 433-NFPA 1900-2025 [New Section after 27.7]****27.9 HVAC.**

Connecting hoses for the heating and air-conditioning system shall be supported by rubber-insulated metal clamping devices at least every 18 in. (457 mm).

27.9.1 Heating.

27.9.1.1 A heating system shall be provided that is capable of raising the interior temperature from 32°F to 68°F (0°C to 20°C) within 30 minutes.

27.9.1.2 Compliance of the heating system shall be validated by testing a substantially similar crew carrier apparatus in accordance with AMD 012, *Interior Climate Control Test* .

27.9.2 * Air Conditioning .

27.9.2.1 An air-conditioning system shall be provided that is capable of lowering the interior temperature from 95°F to 78°F (35°C to 25°C) at a minimum of 40 percent relative humidity within 30 minutes.

27.9.2.2 Compliance of the air-conditioning system shall be validated by testing a substantially similar crew carrier apparatus in accordance with AMD 012, *Interior Climate Control Test* .

Statement of Problem and Substantiation for Public Input

Adequate heating and cooling are a required safety component for crew readiness in transport.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Mon Aug 25 14:31:21 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-350-NFPA 1900-2026](#)

Statement: Adequate heating and cooling are a required safety component for crew readiness in transport.



Public Input No. 434-NFPA 1900-2025 [New Section after 27.7]

27.10 Interior Noise.

27.10.1 The interior sound level in the crew carrier body shall not exceed 90 decibels.

27.10.2 Compliance of the crew carrier body interior sound level shall be validated by testing a substantially similar crew carrier apparatus in accordance with AMD 006, *Patient Compartment Sound Level Test* .

Statement of Problem and Substantiation for Public Input

Traveling in crew carrier apparatus can be for long durations and shall not exceed OSHA decibel requirements

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Mon Aug 25 14:37:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-351-NFPA 1900-2026](#)

Statement: Traveling in crew carrier apparatus can be for long durations and shall not exceed OSHA decibel requirements

**Public Input No. 323-NFPA 1900-2025 [Section No. A.1.3]****A.1.3**

An AHJ incorporating NFPA 414, NFPA 1901, NFPA 1906, NFPA 1917 or any combination of the four, can replace those references with chapters and still reference similar content. For example, if an AHJ incorporated the 2020 edition of NFPA 414 (i.e. in accordance with the 2020 edition of NFPA 414), and they wish to update to the latest information, they can do so by incorporating Chapters 1 through 3, 4 through 6, and Annexes A through C of the ~~2024~~ 2028 edition of NFPA 1900 (i.e. in accordance with Chapters 1 through 3, 4 through 6 and Annexes A through C of the ~~2024~~ 2028 edition of NFPA 1900).

Statement of Problem and Substantiation for Public Input

Update dates to latest edition date.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group of NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Sun Jun 29 13:48:37 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-405-NFPA 1900-2026

Statement: These changes are being made in order to update the annexes and to provide information to the AHJ as to how to refer to the consolidated standards now that the singular ones are no longer going to be revised and issued.

**Public Input No. 100-NFPA 1900-2025 [Section No. A.3.3.9]****A.3.3.9 Aircraft Rescue and Firefighting (ARFF).**

Additionally, ARFF personnel will enter the aircraft to provide assistance to the extent possible in the evacuation of the occupants. Although life safety is primary to ARFF personnel, responsibilities such as fuselage integrity and salvage should be maintained to the extent possible. [440,- 2024 _2028]

Statement of Problem and Substantiation for Public Input

Update edition for extracted text.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 309-NFPA 1900-2025 [Section No. I.3]	
Public Input No. 309-NFPA 1900-2025 [Section No. I.3]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 17:35:43 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be updated by editorial due to the update in chapter 2.

**Public Input No. 80-NFPA 1900-2025 [Section No. A.3.3.126]****A.3.3.126** Ground-Fault Circuit Interrupter (GFCI).

See UL 943, *Ground-Fault Circuit Interrupters*, for further information. Class A ground-fault circuit interrupters trip when the ground-fault current is 6 mA or higher and do not trip when the ground is less than 4 mA. [70, - 2023 2026]

Statement of Problem and Substantiation for Public Input

Update the reference format for definition extracts in accordance with the NFPA Manual of Style 2023 "7.3.1.2 General definitions taken from another document shall be treated as extracts with the reference to the parent document and the edition year given in brackets at the end of the extracted definition."

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 309-NFPA 1900-2025 [Section No. I.3]	
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	
Public Input No. 309-NFPA 1900-2025 [Section No. I.3]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 13:35:50 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be updated by editorial due to the update in chapter 2.

**Public Input No. 133-NFPA 1900-2025 [Section No. A.3.3.149]****A.3.3.149 Interaxle Clearance- (~~Ramp Breakover Angle~~) .**

Interaxle clearance is determined by the horizontal ground line and whichever of the following lines forms the smaller angle:

- (1) The line tangent to the loaded radius of the front tire extended rearward to that fixed point on the vehicle, ahead of a vertical line midway between the two axles, that determines the smallest angle
- (2) The line tangent to the loaded radius of the rear tire extended forward to that fixed point on the vehicle, behind a vertical line midway between the two axles, that determines the smallest angle

The Interaxle Clearance is 1/2 of the Ramp Breakover Angle.

Statement of Problem and Substantiation for Public Input

The Interaxle Clearance is not the same as the Ramp Breakover Angle but they are in a 1:2 ratio.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 132-NFPA 1900-2025 [Section No. 3.3.149]	
Public Input No. 134-NFPA 1900-2025 [Section No. 3.3.236]	
Public Input No. 135-NFPA 1900-2025 [New Section after A.3.3.234]	
Public Input No. 132-NFPA 1900-2025 [Section No. 3.3.149]	
Public Input No. 134-NFPA 1900-2025 [Section No. 3.3.236]	
Public Input No. 135-NFPA 1900-2025 [New Section after A.3.3.234]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 13:30:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-193-NFPA 1900-2026](#)

Statement: Correct this definition. This term is only used on ARFF vehicles. The Interaxle Clearance is not the same as the Ramp Breakover Angle but they are in a 1:2 ratio.

**Public Input No. 135-NFPA 1900-2025 [New Section after A.3.3.234]****3.3.236 Ramp Breakover Angle**

The Ramp Breakover Angle is two times the Interaxle Clearance angle. See A.3.3.149.

Statement of Problem and Substantiation for Public Input

Link to relationship with Interaxle Clearance and the process for measuring both.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 134-NFPA 1900-2025 [Section No. 3.3.236]	
Public Input No. 133-NFPA 1900-2025 [Section No. A.3.3.149]	
Public Input No. 132-NFPA 1900-2025 [Section No. 3.3.149]	
Public Input No. 132-NFPA 1900-2025 [Section No. 3.3.149]	
Public Input No. 133-NFPA 1900-2025 [Section No. A.3.3.149]	
Public Input No. 134-NFPA 1900-2025 [Section No. 3.3.236]	
Public Input No. 226-NFPA 1900-2025 [Section No. A.29.7.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 13:43:21 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-194-NFPA 1900-2026](#)

Statement: Link to relationship with Interaxle Clearance and the process for measuring both.



Public Input No. 223-NFPA 1900-2025 [Section No. A.7.1.6.1]

A.7.1.6.1

Metric units of measurement in this standard are in accordance with the modernized metric system known as the International System of Units (SI). The liter, a unit that is outside of but recognized by SI, is commonly used in international fire protection. Table A.7.1.6.1(a) and Table A.7.1.6.1(b) provide U.S.-to-SI conversion factors and SI-to-U.S. conversion factors as an aid to the user. Table A.7.1.6.1(c) provides other conversion factors that could be useful to the reader. Table A.7.1.6.1(d) provides a list of the abbreviations used in this standard and their meanings.

Table A.7.1.6.1(a) Conversion Factors: U.S. Units to SI Units

<u>U.S. Units</u>	<u>SI Units</u>
1 gallon per minute (gpm)	= 3.785 liters per minute (L/min)
1 imperial gallon per minute (igpm)	= 4.546 liters per minute (L/min)
1 pound per square inch (psi)	= 6.895 kilopascals (kPa)
1 inch of mercury (in. Hg) at 60°F (15.6°C)	= 3.377 kilopascals (kPa)
1 inch (in.)	= 25.40 millimeters (mm)
1 foot (ft)	= 0.305 meter (m)
1 cubic foot (ft ³)	= 0.0283 cubic meter (m ³)
1 square inch (in. ²)	= 645.2 square millimeters (mm ²)
1 mile per hour (mph)	= 1.609 kilometers per hour (km/hr)
1 pound (lb)	= 0.454 kilogram (kg)
1 pound force (lbf)	= 4.44822 Newtons (N)
1 horsepower (hp)	= 0.746 kilowatt (kW)
1 candlepower (cp)	= 12.566 lumens
1 pound per cubic foot (lb/ft ³)	= 16 kilograms per cubic meter (kg/m ³)
1 footcandle (fc)	= 10.764 lux (lx)
1 footlambert	= 3.427 candela/m ²

Table A.7.1.6.1(b) Conversion Factors: SI Units to U.S. Units

<u>SI Units</u>	<u>U.S. Units</u>
1 liter per minute (L/min)	= 0.264 gallon per minute (gpm)
1 liter per minute (L/min)	= 0.22 imperial gallon per minute (igpm)
1 kilopascal (kPa)	= 0.145 pound per square inch (psi)
1 kilopascal (kPa)	= 0.2962 in. Hg at 60°F (15.6°C)
1 millimeter (mm)	= 0.0394 inch (in.)
1 meter (m)	= 3.281 feet (ft)
1 cubic meter (m ³)	= 35.31 cubic feet (ft ³)
1 square millimeter (mm ²)	= 0.00155 square inch (in. ²)
1 kilometer per hour (km/hr)	= 0.6214 mile per hour (mph)
1 kilogram (kg)	= 2.2 pounds (lb)
1 Newton (N)	= 0.2248 pound force (lbf)
1 kilowatt (kW)	= 1.34 horsepower (hp)
1 lumen	= 0.08 candlepower (cp)
1 kilogram per cubic meter (kg/m ³)	= 0.062 pound per cubic foot (lb/ft ³)
1 lux (lx)	= 0.092 footcandle (fc)
1 candela/m ²	= 0.292 footlambert

Table A.7.1.6.1(c) Other Useful Conversion Factors

1 gallon per minute (gpm)	= 0.833 imperial gallon per minute (igpm)
1 imperial gallon per minute (igpm)	= 1.2 gallons per minute (gpm)
1 foot (ft) of water	= 0.433 pound per square inch (psi)
1 pound per square inch (psi)	= 2.31 feet (ft) of water
1 metric ton (mton)	= 1000 kilograms (kg)
1 kilopascal (kPa)	= 0.01 bar
1 bar	= 100 kilopascals (kPa)

Table A.7.1.6.1(d) Abbreviations Used in This Standard

<u>Abbreviation</u>	<u>Term</u>
A	ampere(s)
ac	alternating current
C	Celsius
cd	candela(s)

<u>Abbreviation</u>	<u>Term</u>
dc	direct current
EMSP	<u>Emergency Medical Services Provider</u>
F	Fahrenheit
fc	footcandle(s)
ft	foot (feet)
gpm	gallon(s) per minute
hp	horsepower
in.	inch(es)
in. Hg	inch(es) of mercury
kg	kilogram(s)
km/hr	kilometer(s) per hour
kPa	kilopascal(s)
kW	kilowatts(s)
L	liter(s)
L/min	liter(s) per minute
lx	lux
m	meter(s)
mm	millimeter(s)
mph	mile(s) per hour
NH	National Hose
psi	pound(s) per square inch
rms	root mean square
V	volt(s)

Statement of Problem and Substantiation for Public Input

Add pound force to Newton conversions as these are used in several places.

One item (EMSP) is the only difference between these tables and the tables under A.28.1.6. This change allows eliminating duplicate tables.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 222-NFPA 1900-2025 [Section No. A.28.1.6]	
Public Input No. 222-NFPA 1900-2025 [Section No. A.28.1.6]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 18:13:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-204-NFPA 1900-2026

Statement: Add pound force to Newton conversions as these are used in several places.

One item (EMSP) is the only difference between these tables and the tables under A.28.1.6. This change allows eliminating duplicate tables.

**Public Input No. 210-NFPA 1900-2025 [Section No. A.7.8.4]****A.7.8.4**

If the third-party certification of the pump test results uses verifiable automated data collection and image recording equipment, then the third-party organization should refuse to certify any test results for a system if all components of that system requiring testing do not pass the testing required by this standard. The process for acquiring test data should include the following:

- (1) The equipment for securing verifiable automated data collection and image recording should be designed to monitor, collect, and transmit test data from the test site to a microprocessor, computer, and compatible software.
- (2) Electronic components should record all pump test data.
- (3) Hardware, software, and data output should be configured into a tamper-free design and operation.
- (4) Date and time displays should be provided and recorded as part of the electronic data acquisition.
- (5) Cameras and data recorders should record all sequences of pump testing and video snapshot clips can be provided for specific test points.
- (6) The equipment should have provisions for manual entry to record information specific to the purchaser, chassis, OEM manufacturer, vertical suction lift distance, no-load governed speed, altitude, barometric pressure, and other required test documentation.
- (7) Data acquisition should record the following at intervals required by the appropriate sections of this standard:
 - (8) Master pump pressure
 - (9) Master vacuum (in. of Hg)
 - (10) Fire pump drive engine RPM — tachometer
 - (11) Pitot pressure and/or flowmeter display(s)
 - (12) Date and time (i.e., day, hour, minute, second)
 - (13) Flow measurement
 - (14) Water temperature of test pit and ambient temperature
 - (15) Coolant temperature from the fire pump drive engine radiator
 - (16) Oil pressure monitoring from the fire pump drive engine
 - (17) Low-voltage monitoring during entire test sequence in addition to alarm to operator
 - (18) If applicable, line voltage monitoring and recording (i.e., frequency, voltage, amps, and ambient temperature in the generator area)
- (19) Following the OEM apparatus test, the test data and video/photo segments should be transmitted to a third-party accredited organization in compliance with the requirements of this standard as it pertains to review and certification of test results.

Statement of Problem and Substantiation for Public Input

Note that TerraView does not handle lists well. The only change is changing "microprocessor" to "computer". The term microprocessor came out in the 70's to describe a computer processor that was all on a single chip. Now even super computers use microprocessors. The best wording for current terminology would be computer.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 13:33:40 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-205-NFPA 1900-2026

Statement: Note that TerraView does not handle lists well. The only change is changing "microprocessor" to "computer".

The term microprocessor came out in the 70's to describe a computer processor that was all on a single chip. Now even super computers use microprocessors. The best wording for current terminology would be computer.

**Public Input No. 481-NFPA 1900-2025 [Section No. A.7.14.1]****A.7.14.1**

Several features and factors affect vehicle safety in a rollover.

Custom Fire Apparatus Cab. The nature of the custom fire apparatus cab makes it much stronger in rollover than typical conventional commercial chassis cabs. There is much anecdotal evidence to indicate that the crashworthiness of a typical custom fire apparatus cab is significantly greater than a typical commercial cab, and most custom chassis manufacturers can provide test data on cab integrity.

Lateral Acceleration Alert Device. There are both mechanical and electronic devices available that will measure the lateral acceleration of a vehicle. Although these devices will not prevent rollover, they can be used effectively as a driver training tool to indicate when the vehicle is approaching the roll threshold and as a reminder to the driver that excessive lateral acceleration can lead to a rollover event.

Side Roll Protection. Many custom and commercial chassis fire apparatus manufacturers offer side air bags or curtains that inflate during a roll event and that are usually combined with seat belt pretensioning devices and suspension seat pull-down devices. This option can reduce injury during a rollover as long as the occupants are seated and belted.

Roll Stability Control. This technology electronically senses the lateral acceleration of the vehicle and takes action by depowering the engine and applying the brakes if the vehicle approaches a roll threshold. The effectiveness of this product is limited to events on relatively flat pavement, since it cannot do much to help the situation once a vehicle is off the road and leaning into a ditch.

Electronic Stability Control (ESC). ESC has been standard in passenger vehicles as of 2011. It helps drivers maintain control of their vehicle during extreme steering maneuvers by keeping the vehicle headed in the driver's intended direction, even when the vehicle nears or exceeds the limits of road traction. ESC has been added as a requirement to fire apparatus for those configurations where the technology is readily available. Before ESC can be offered on an apparatus, algorithms must be designed and the configuration must be tested to prove that it will work safely in all conditions. There are certain configurations in the fire service where the production volumes are so low that the major manufacturers of braking ESC systems cannot make a business case to develop it. In the case of tractor drawn aerials (TDAs), the algorithm would be so complex it is unlikely that ESC could ever be offered. The intent of the requirement in 7.14.1 is to require ESC on all apparatus where the technology is currently available. Configurations where the technology might not be commercially available include the following:

- (1) Apparatus with a driving front axle.
- (2) TDA apparatus
- (3) Apparatus with rear axle steering

Driver Skill and Experience. While the design and features of the vehicle are important to safe driving, the most important aspect of crash prevention is the skill and experience of the operator. The operator's attitude, training, experience, qualifications, and the application of those qualities are the most important elements in crash prevention. The operator must ensure that the physical limits of the vehicle are not exceeded. Driver skill is developed only through training and practice.

Statement of Problem and Substantiation for Public Input

Commercial chassis are now offering options for side roll protection. Calling this out as part of the appendix area of the standard.

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 13:03:12 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-201-NFPA 1900-2026

Statement: The committee is moving this text to it's proper location within the standard. The current 7.14.5, 7.14.5.1, 7.14.5.2, and 7.14.5.3 are not included in this move to 9.4.

When operating in the wildland fire environment, stability control systems can interfere with safe vehicle operation by unnecessary activating/engaging at inopportune times, such as maneuvering/navigating on tight/narrow/steep/switchback roads or operating off-road. The vehicle stability systems are not optimized for higher center of gravity four-wheel drive designed vehicles and frequently activates when no activation is needed. Wildland Fire apparatus frequently works off of public highways and further information is necessary before requiring these on all wildland fire apparatus.



Public Input No. 335-NFPA 1900-2025 [Sections A.7.14.1, A.7.14.3.1(1), A.7.14.4.1, A.7.14.5.1, A...]

Sections A.7.14.1, A.7.14.3.1(1), A.7.14.4.1, A.7.14.5.1, A.7.14.5.4, A.7.14.6

A.7.14.1 —

Several features and factors affect vehicle safety in a rollover.

Custom Fire Apparatus Cab. The nature of the custom fire apparatus cab makes it much stronger in rollover than typical conventional commercial chassis cabs. There is much anecdotal evidence to indicate that the crashworthiness of a typical custom fire apparatus cab is significantly greater than a typical commercial cab, and most custom chassis manufacturers can provide test data on cab integrity.

Lateral Acceleration Alert Device. There are both mechanical and electronic devices available that will measure the lateral acceleration of a vehicle. Although these devices will not prevent rollover, they can be used effectively as a driver training tool to indicate when the vehicle is approaching the roll threshold and as a reminder to the driver that excessive lateral acceleration can lead to a rollover event.

Side Roll Protection. Many custom fire apparatus manufacturers offer side air bags or curtains that inflate during a roll event and that are usually combined with seat belt pretensioning devices and suspension seat pull-down devices. This option can reduce injury during a rollover as long as the occupants are seated and belted.

Roll Stability Control. This technology electronically senses the lateral acceleration of the vehicle and takes action by depowering the engine and applying the brakes if the vehicle approaches a roll threshold. The effectiveness of this product is limited to events on relatively flat pavement, since it cannot do much to help the situation once a vehicle is off the road and leaning into a ditch.

Electronic Stability Control (ESC). ESC has been standard in passenger vehicles as of 2011. It helps drivers maintain control of their vehicle during extreme steering maneuvers by keeping the vehicle headed in the driver's intended direction, even when the vehicle nears or exceeds the limits of road traction. ESC has been added as a requirement to fire apparatus for those configurations where the technology is readily available. Before ESC can be offered on an apparatus, algorithms must be designed and the configuration must be tested to prove that it will work safely in all conditions. There are certain configurations in the fire service where the production volumes are so low that the major manufacturers of braking ESC systems cannot make a business case to develop it. In the case of tractor drawn aerials (TDAs), the algorithm would be so complex it is unlikely that ESC could ever be offered. The intent of the requirement in 7.14.1 is to require ESC on all apparatus where the technology is currently available. Configurations where the technology might not be commercially available include the following:

- (1) Apparatus with a driving front axle.
- (2) TDA apparatus
- (3) Apparatus with rear axle steering

Driver Skill and Experience. While the design and features of the vehicle are important to safe driving, the most important aspect of crash prevention is the skill and experience of the operator. The operator's attitude, training, experience, qualifications, and the application of those qualities are the most important elements in crash prevention. The operator must ensure that the physical limits of the vehicle are not exceeded. Driver skill is developed only through training and practice.

A.7.14.3.1(1) —

When a vehicle is on a tilt table, the point of instability is when the vehicle is "balanced" on the verge of rollover, and very little constraining force, if any, is required to restrain the vehicle. This can occur with the front wheels still in contact with the surface of the tilt table or with other wheels in contact with the surface of the tilt table.

A.7.14.4.1 —

The distribution of the weight between the front wheels and the rear wheels should be a major consideration, because improper design will seriously affect the handling characteristics of the fire apparatus. Too little weight on the front wheels can cause a front-end skid and, on bumpy roads, can cause the front of the fire apparatus to veer from side to side. At the very least, it would be difficult to keep the fire apparatus under control. Too much weight on the front wheels reduces the traction of the rear wheels and can result in a rear-end skid or difficulty in traveling over unpaved roads or in mud.

A.7.14.5.1 —

It is critical that the purchaser provide the manufacturer the equipment inventory and mounting locations for equipment on the apparatus. This information should include existing equipment and estimated future equipment to be carried. The projections of total equipment payload and mounting locations are essential for proper engineering of a new fire apparatus. It is the responsibility of the purchaser to properly load the fire apparatus and place equipment to comply with the GVWR, the front-to-rear weight distribution, and the right-to-left load balance requirements of this standard.

A.7.14.5.4 —

The projections of total equipment payload and mounting locations are essential for proper engineering of a new fire apparatus. The purchaser of the fire apparatus should maintain the side-to-side loading requirement in 7.14.5.4 as equipment is loaded or installed on the apparatus.

The percentage difference in side-to-side tire load should be calculated as shown in the following formula:

$$\frac{(\text{heavier weight} - \text{lighter weight})}{\text{total weight}} \times 100 = \text{percent difference} \quad [\text{A.7.14.5.4}]$$

A.7.14.6 —

A frequent killer of firefighters is apparatus rollover. Proper tire inflation improves the handling characteristics and minimizes rollover.

Statement of Problem and Substantiation for Public Input

Move this text to A.9.4... along with the move of the body text.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 331-NFPA 1900-2025 [Section No. 7.14]	
Public Input No. 332-NFPA 1900-2025 [New Section after 9.3.6.5]	
Public Input No. 332-NFPA 1900-2025 [New Section after 9.3.6.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jul 01 10:34:22 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [ER-201-NFPA 1900-2026](#)

Statement: The committee is moving this text to it's proper location within the standard. The current 7.14.5, 7.14.5.1, 7.14.5.2, and 7.14.5.3 are not included in this move to 9.4.

When operating in the wildland fire environment, stability control systems can interfere with safe vehicle operation by unnecessary activating/engaging at inopportune times, such as maneuvering/navigating on tight/narrow/steep/switchback roads or operating off-road. The vehicle stability systems are not optimized for higher center of gravity four-wheel drive designed vehicles and frequently activates when no activation is needed. Wildland Fire apparatus frequently works off of public highways and further information is necessary before requiring these on all wildland fire apparatus.

**Public Input No. 211-NFPA 1900-2025 [Section No. A.7.18.5]****A.7.18.5 —**

The variations in the brake performance testing requirements reflect the differences between 49 CFR 571.105, "Hydraulic and Electric Brake Systems," and 49 CFR 571.121, "Air Brake Systems."

Statement of Problem and Substantiation for Public Input

Not true. Both FMVSS 121 and FMVSS 105 call for stopping in 78' from 30 mph. Neither FMVSS standard specifies brake stopping distance at 20 mph. Apparatus manufacturers do not want to have to test the brake performance of heavy trucks at 30 mph on public roads. This is a verification that the brakes are working, not a certification that the brakes meet FMVSS requirements.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 259-NFPA 1900-2025 [Section No. I.1.2.12]	
Public Input No. 259-NFPA 1900-2025 [Section No. I.1.2.12]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 21 14:00:53 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-419-NFPA 1900-2026](#)

Statement: Not true. Both FMVSS 121 and FMVSS 105 call for stopping in 78' from 30 mph. Neither FMVSS standard specifies brake stopping distance at 20 mph. Apparatus manufacturers do not want to have to test the brake performance of heavy trucks at 30 mph on public roads. This is a verification that the brakes are working, not a certification that the brakes meet FMVSS requirements.

**Public Input No. 338-NFPA 1900-2025 [Sections A.7.19.1, A.7.19.2.1]****Sections A.7.19.1, A.7.19.2.1****A.7.19.1 —**

Where the point of delivery is over 2000 ft (600 m) of elevation, it is important to test the pump and pumping engine performance to ensure that the engine can develop adequate power at the point of delivery. This test can be performed with the pump supplied from a fire hydrant or at draft, with the discharge and net pressure maintained at rating for the pump. The net ~~pressure (P) when pressure when~~ the pump is supplied from a hydrant with positive intake pressure is the discharge gauge ~~pressure (D) minus pressure minus~~ the intake gauge pressure- (S).

A.7.19.2.1 —

~~Where the point of delivery is over 2000 ft (600 m) of elevation and a fire pump is provided, the pumping engine overload test described in 13.13.3 should be performed to ensure that the engine can develop adequate power at point of delivery. This test should be performed with the pump supplied from draft per Table 13.13.2.2.1.1, with the net pressure maintained at 165 psi (1100 kPa).~~

Statement of Problem and Substantiation for Public Input

The main body test was substantially revised. This information is still applicable, so 7.19 seems the best place to attach it. THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 333-NFPA 1900-2025 [Section No. 7.19]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jul 02 12:32:15 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-403-NFPA 1900-2026

Statement: The committee will never be able to keep up with the correct list of topics for this section, especially as apparatus evolve into alternate fuels and electrification. Manufacturers include topics in the operator manual because they are important for the operator to know. The operator manual is therefore the perfect outline for any familiarization program.



Public Input No. 339-NFPA 1900-2025 [Section No. A.7.21.2.3(6)(g)]

A.7.21.2.3(6)(g) (g 7)

The equivalent circuit logic could be described in several ways. It might be shown as an equivalent schematic, a word-based description, or a table. In any case, it should define the relationship between input status and output status.

Statement of Problem and Substantiation for Public Input

7.21 has been re-written by Public Input 334 and this section moved.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 334-NFPA 1900-2025 [Section No. 7.21]	
Public Input No. 142-NFPA 1900-2025 [Section No. 7.21.1]	
Public Input No. 334-NFPA 1900-2025 [Section No. 7.21]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Affiliation: Admin task group for NFPA 1900/1910
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jul 02 13:34:05 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: [FR-404-NFPA 1900-2026](#)
Statement: This reorganization of the deliverable documentation eliminates unnecessary details that are included elsewhere (such as on the required FMVSS labels) and other readily available information on the internet. It still includes the checklist of test results that need to be supplied.

**Public Input No. 340-NFPA 1900-2025 [Section No. A.7.21.2.4]****A.7.21.2.4 —**

~~Suppliers of components and equipment installed or supplied by the contractor often supply operations and maintenance documents with those components or equipment. This standard requires that the contractor deliver these documents to the purchaser. The purchaser should specify if multiple copies of these documents are required.~~

Statement of Problem and Substantiation for Public Input

The referenced text was deleted in the rewrite of 7.21. This information is typically no longer provided with products and is available on the internet.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 334-NFPA 1900-2025 [Section No. 7.21]	
Public Input No. 142-NFPA 1900-2025 [Section No. 7.21.1]	
Public Input No. 334-NFPA 1900-2025 [Section No. 7.21]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jul 02 13:42:48 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-404-NFPA 1900-2026](#)

Statement: This reorganization of the deliverable documentation eliminates unnecessary details that are included elsewhere (such as on the required FMVSS labels) and other readily available information on the internet. It still includes the checklist of test results that need to be supplied.

**Public Input No. 341-NFPA 1900-2025 [Section No. A.7.21.2.9]****A.7.21.2.9 4.1(8)**

The ability of an apparatus to ford water is dependent on a number of factors. One of these is the height of the engine air intake opening. This height can help the purchaser understand part of the apparatus's ability to operate in high water. Even this value must be considered carefully because the speed of travel as well as physical features around the opening will affect the fording ability. Other considerations include vents on axle differentials and engine crankcases as well as electrical equipment. If the purchaser intends to operate in high water, it is recommended that they work with their apparatus manufacturer to ensure that other components that would be affected by water will be addressed, and that the apparatus can be manufactured to the desired water fording depth.

Statement of Problem and Substantiation for Public Input

Referenced text was moved in the rewrite of 7.21.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 334-NFPA 1900-2025 [Section No. 7.21]	
Public Input No. 142-NFPA 1900-2025 [Section No. 7.21.1]	
Public Input No. 334-NFPA 1900-2025 [Section No. 7.21]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Wed Jul 02 13:48:03 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-404-NFPA 1900-2026](#)

Statement: This reorganization of the deliverable documentation eliminates unnecessary details that are included elsewhere (such as on the required FMVSS labels) and other readily available information on the internet. It still includes the checklist of test results that need to be supplied.

**Public Input No. 482-NFPA 1900-2025 [Section No. A.8.1]****A.8.1**

Fire departments should carefully evaluate their water supply needs and the available water delivery systems when considering water tank size. The minimum tank size might not meet the needs of the department. Fire departments servicing areas with wide hydrant spacing or areas with no hydrants should strongly consider increasing the water tank size. The department should choose a water tank size that will best support efficient and effective fireground operations.

Additional compartmentation might be required to accommodate the size, shape, and weight of special equipment. Any special equipment to be carried on the apparatus should be identified in the specifications so the apparatus manufacturer can ensure the equipment will be properly accommodated within the design of the apparatus.

Hose storage areas are not required to be contiguous. The purchaser should consider arrangements for hose storage that will best support operational procedures. The purchaser should also consider specifying some type of cover for the hose compartment(s). Hinged or removable covers might be advantageous.

Departments should consider the addition of a ~~sodium chloride fire~~ Class-D rated fire extinguisher for use on combustible metal fires. Combustible metals, such as magnesium, can react violently with water and pose a hazard to personnel.

Statement of Problem and Substantiation for Public Input

Changing to a broader naming of sodium chloride extinguisher

Submitter Information Verification

Submitter Full Name: John Schultz

Organization: Pierce Manufacturing, Inc.

Street Address:

City:

State:

Zip:

Submission Date: Tue Sep 02 13:05:20 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-418-NFPA 1900-2026

Statement: Changing to a broader naming of sodium chloride extinguisher. This is being balloted separately from the changes to be made to the table as they are of a different topic/subject.

**Public Input No. 93-NFPA 1900-2025 [Section No. A.8.8]****A.8.8**

If the aerial fire apparatus does not have a prepped waterway provided, the following equipment might be considered if water suppression from the aerial is desired:

- (1) Manual ladder pipe with 1½ in. (32 mm), 1¾ in. (35 mm), and 1½ in. (38 mm) tips or electric ladder pipe with automatic nozzle that can be attached to the aerial ladder
- (2) Sufficient length(s) of 3 in. (75 mm) or larger attack hose complying with the requirements of ~~NFPA 1964~~ NFPA 1960 to reach between the installed ladder pipe and the ground with at least 10 ft (3 m) of hose available on the ground with the ladder at full extension
- (3) One hose strap for each ladder section
- (4) Halyards to control the ladder pipe from ground level (for manual ladder pipe only)

A bracket for carrying the detachable ladder pipe should be both of the following:

- (1) Provided on the apparatus
- (2) Designed so that the ladder pipe clamps will not have to be readjusted to secure the pipe to the aerial ladder

The horizontal traverse of the detachable ladder pipe should not exceed the aerial ladder manufacturer's recommendations.

The ladder pipe should be capable of swiveling 135 degrees from a line parallel to the ladder and down.

If the purchaser wants extra length on the hose, a two- or three-inlet siamese, or a shutoff at the base of the ladder, these should be specified. The purchaser might also wish to specify a 500 gpm (2000 L/min) minimum spray nozzle.

The size of hose used to supply the ladder pipe will have been considered by the aerial ladder manufacturer in the design of the ladder. Use of larger size hose could overload the ladder with excessive weight and should be avoided until the aerial ladder manufacturer is consulted.

The hose should be fastened in a straight line up the middle of the aerial ladder. Hose straps not only secure the hose in place but take the strain off couplings and fittings that might otherwise fail and cause injury.

Where the purchaser wants pulleys and rope for vertical control of the stream from the turntable, the purchaser should specify these.

Statement of Problem and Substantiation for Public Input

Update document number due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 16:44:10 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-207-NFPA 1900-2026

Statement: This change is to correct a typographical error and to update due to the consolidation plan.



Public Input No. 247-NFPA 1900-2025 [Section No. A.8.10]

A.8.10

Special service fire apparatus can be designed to provide a wide variety of support functions (e.g., rescue, command, hazardous material containment, air services, electrical generation and floodlighting, and transportation of support equipment and personnel). Because of this variety, the recommended list of equipment is minimal, and the purchaser needs to develop an appropriate equipment list based on a review of the functions and operations that the apparatus will be expected to support.

Equipment in the following list should be considered if the primary use of the apparatus is for hazardous material containment:

- (1) One copy of the current edition of the US DOT Emergency Response Guidebook
- (2) One copy of NFPA *Fire Protection Guide to Hazardous Materials* or equivalent reference guide
- (3) Two pairs of binoculars
- (4) One gas detection instrument that complies with OSHA standards
- (5) One radiation-monitoring instrument
- (6) One pH test kit
- (7) One colorimetric chemical detector tube kit with 20-chemical minimum detection capability
- (8) Six vapor-protective suits meeting the requirements of NFPA 1990
- (9) Twelve liquid-splash-protective suits meeting the requirements of NFPA 1990
- (10) Twenty-four pairs of disposable boot covers
- (11) Twenty-four pairs of disposable glove liners or inner gloves
- (12) Forty-eight pairs of disposable chemical protective gloves of three different materials as a minimum
- (13) Six additional SCBA complying with NFPA-1984 NFPA 1970
- (14) One spare SCBA cylinder for each SCBA
- (15) Ten traffic cones, 18 in. (0.5 m) minimum height
- (16) Four rolls 1000 ft × 3 in. (300 m × 76 mm) banner tape
- (17) Two rolls 6 mil (0.152 mm) minimum 10 ft × 100 ft (3 m × 30 m) plastic sheeting
- (18) Two rolls 2 in. (51 mm) wide duct tape
- (19) Two decontamination containment pools
- (20) One decontamination shower
- (21) Two 50 ft (15 m) lengths of heavy-duty garden hose with adapters for connection to a fire pump
- (22) Two spray nozzles with garden hose thread
- (23) Four 30 gal (100 L) open-top containers with sealed covers
- (24) Four long-handle scrub brushes
- (25) Twenty 50 gal (190 L) capacity heavy-duty garbage bags
- (26) One assortment decontamination solution
- (27) Four round-point shovels
- (28) Four portable explosionproof hand lights with mounting brackets
- (29) Four nonspark, plastic, square-point shovels
- (30) One 6 lb (2.7 kg) flathead axe or forcible entry tool
- (31) Two street brooms
- (32) Two floor squeegees with handles
- (33) One 6 lb (2.7 kg) sledgehammer
- (34) Two nonspark bung wrenches
- (35) One gas shutoff wrench
- (36) One pair 24 in. (0.6 m) bolt cutters
- (37) One drum upender
- (38) One nonspark 28 in. (0.7 m) crowbar
- (39) One plug and patch kit
- (40) One toolbox (wrenches, sockets, screwdrivers; minimum 100 units)
- (41) Six MC #306/DOT #406 dome clamps
- (42) 400 pads 18 in. × 18 in. × ¾ in. (450 mm × 450 mm × 9.5 mm) hydrophobic polypropylene-type absorbents
- (43) 150 lb (68 kg) of dry granular or loose absorbent in ruptureproof 5 gal (19 L) containers that can be disposed of by approved methods
- (44) Four 10 ft (3 m) sorbent booms
- (45) 50 lb (22.7 kg) dry lime in ruptureproof 5 gal (19 L) containers
- (46) One manually operated product transfer pump with minimum 15 gpm (57 L/min) capacity and appropriate hose
- (47) One 55 gal (208 L) drum (UN—1A2)
- (48) One 85 gal (322 L) drum (UN—1A2)

Statement of Problem and Substantiation for Public Input

Update referenced documents due to consolidation.
THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Affiliation: Admin task group for NFPA 1900/1910
Street Address:
City:
State:
Zip:
Submittal Date: Fri May 23 12:20:20 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: This will be updated by editorial due to the update in chapter 2.

**Public Input No. 361-NFPA 1900-2025 [Section No. A.9.1.4]****A.9.1.4 —**

Final-stage manufacturers of motor vehicles are required to affix certification labels or tags to all motor vehicles sold in the U.S., stating that the vehicle meets all applicable Federal Motor Vehicle Safety Standards (49 CFR 571) and Federal Theft Prevention Standards (49 CFR 541). The location for affixing the certification label on the motor vehicle is a requirement of the federal standard requiring this label. See 49 CFR 567, "Certification," for more information.

Statement of Problem and Substantiation for Public Input

Section 9.1.4 deleted via PI 359. If 359 is approved then A9.1.4 should go away also.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 359-NFPA 1900-2025 [Section No. 9.1.4]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 14 21:08:16 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-222-NFPA 1900-2026](#)

Statement: This is a legal requirement of FMVSS 49CFR 567 and does not need to be repeated here.

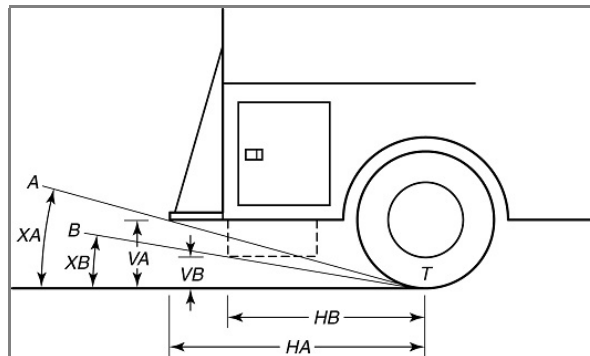


Public Input No. 212-NFPA 1900-2025 [Section No. A.9.3.2.4]

A.9.3.2.4

The angle of approach or departure affects the road clearance of the vehicle going over short steep grades such as would be found in a driveway entrance, crossing a high crowned road at a right angle, or off-road service. Too low an angle of approach or departure will result in the apparatus scraping the ground. Figure A.9.3.2.4 shows the method of determining the angle of departure. The angle of approach (front of vehicle) is measured in the same fashion.

Figure A.9.3.2.4 Dimensions for Determining Angle of Departure.



In Figure A.9.3.2.4, the line AT represents the circumstance in which the tailboard is the determining lowest point. The line BT represents a circumstance in which the tailboard is not the lowest point (in this case, the lowest point is a fuel tank). The angle of departure is shown as XA or XB . To determine the angle of departure, place a thin steel strip against the rear of the tires where they touch the ground or stretch a string tight from one rear tire to the other at the rear of where they touch the ground. Determine the lowest point (the tailboard, fuel tank, or other equipment or component) that would make the smallest angle of departure. Hang a plumb bob from the lowest point and mark the point on the ground where the point of the plumb bob touches. Measure the vertical distance from the ground to the point where the plumb bob was hung (distance V). Measure the horizontal distance from the plumb bob point to the front of the steel strip or to the string running from rear tire to rear tire (distance H). Divide the vertical distance (V) by the horizontal distance (H). The ratio of V/H is the tangent of the angle of departure. If this ratio is known, the angle of departure can be determined from a table of trigonometric functions of angles or from a math calculator. The standard requires a minimum angle of approach and angle of departure for structural apparatus of 8 degrees; since the tangent of 8 degrees is 0.1405, if V divided by H is 0.1405 or larger, the angle is 8 degrees or greater. The standard requires a minimum angle of approach and angle of departure is 8- for wildland apparatus of 20 degrees; since the tangent of 20 degrees is 0.3640, if V divided by H is 0.3640 or larger, the angle is 20 degrees or greater.

Statement of Problem and Substantiation for Public Input

Generalize the description for angle of approach and angle of departure, and for both structural and wildland apparatus.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 14:12:11 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-220-NFPA 1900-2026

Statement: Generalize the description for angle of approach and angle of departure, and for both structural and wildland apparatus.



Public Input No. 145-NFPA 1900-2025 [New Section after A.10.1]

A.10.2 Wiring

Electrical circuit wiring supplies power, not communications. This section does not cover multiplexing, data communications, computer interfacing, audio and video signals, radio frequency, and other non-power cabling. Standards for those wiring systems are defined by other industry standards organizations

Statement of Problem and Substantiation for Public Input

Clarify that wiring requirements apply only to power, not signal, wiring.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Mon May 12 18:06:13 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-259-NFPA 1900-2026](#)

Statement: The committee is making these changes as 10.2 - Fire apparatus manufacturers must purchase components that are commercially available, primarily from the class 8 truck market. These components may not meet the unique requirements of this section. The intent has always been to apply the standards to those part under the control of the apparatus manufacture. Also, CAN network wiring will not meet the same requirements as power conducting wiring so therefore should also be excluded. 10.2.1 - SAE J1127 specifies the allowable conductor materials that are all either copper or copper clad. 10.2.2.1.2 appears to allow other than copper, but why not just use the SAE J1127 specs? SAE J2202 6.3 specifies conductor sizing based on Voltage Drop, which we specify in 10.2.1.1 already. Eliminated the term "Circuit Feeder Wire" as it may not correctly define what we are after. From NEC definitions: Feeder. All circuit conductors between the service equipment, the source of a separately derived system, or other power supply source and the final branch-circuit overcurrent device. (CMP-10) 10.2.1.3 - Rewritten to conform to NFPA manual of style 10.2.2.1 - Rewritten to indicate which type of conductor should conform to which standard. 10.2.2.1.1 - Redundant text as this is already specified in 10.2.2.1 10.2.2.1.2 - The acceptable conductor materials are specified in the SAE standards. No need to repeat them here 10.2.2.1.3 - Redundant. Already specified in 10.2.2.1 10.2.2.2 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable) 10.2.3 - Temperature and moisture resistance is already specified in SAE J1127 (low voltage battery cable) and 1128 (low voltage primary cable) 10.2.5 - Already specified in SAE J2202

Mechanical-type circuit devices are becoming a global commodity. As a result, the test standards and regulatory standards sometimes are not covered by an SAE standard. Adding the ISO equivalent to cover a broader supply chain of components.

The addition of A.10.2 is to clarify that wiring requirements apply only to power, not signal, wiring.

**Public Input No. 213-NFPA 1900-2025 [Section No. A.10.7.4.4]****A.10.7.4.4**

System compliance is achieved when each individual zone is documented as compliant. Compliance for all eight zones can be established ~~from~~ from one lighting manufacture or multiple lighting manufacturers. When the optical warning devices for all zones are from one manufacturer, system compliance documentation should be provided by that manufacturer. When the optical warning devices are from more than one manufacturer, system compliance documentation should be provided by the manufacturer specific to that zone. The following are examples:

- (1) All lights could be from one lighting manufacturer.
- (2) All upper lights could be from one lighting manufacturer and all lower lights could be from another lighting manufacturer.
- (3) All front lights (upper and lower) could be from one lighting manufacturer, all side lights (upper and lower) could be from a second lighting manufacturer, and all rear lights (upper and lower) could be from a third lighting manufacturer.

Statement of Problem and Substantiation for Public Input

Spelling correction.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 14:18:55 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-284-NFPA 1900-2026](#)

Statement: Spelling correction.

**Public Input No. 354-NFPA 1900-2025 [New Section after A.10.7.7]****A.10.7.8.4**

Under typical conditions, the specified optical warning system provides effective, balanced warning. In some situations, however, the safety of the apparatus can be increased by turning off some warning devices. For example, if other vehicles need to pass within close proximity to the parked apparatus, the possibility of distracting other drivers can be reduced if the headlights and lower-level warning lights are turned off. In snow or fog, it might be desirable to turn off forward-facing flashing lights to reduce visual disorientation of the apparatus driver.

The intent of the warning light system is to provide full coverage signals through the operation of a single master switch when the apparatus is either responding or blocking the right-of-way. There is no intent to prevent the use of lower levels of warning when the apparatus driver believes such reductions are appropriate, given the vehicle's mission, the weather, or other operational factors. Additional switches downstream of the master switch can be specified by the purchaser to control individual devices or groups of devices.

Purchasers might want to specify traffic-flow-type lighting such as amber directional indicators for use in alerting approaching motorists of blocked or partially blocked highways.

Statement of Problem and Substantiation for Public Input

This long term text got lost in last minute 2024 restructuring of the electrical chapter. this clarification is very important. Most fire apparatus has had these switches since the master warning switch came out. particularly in heavy snow or fog, it is often necessary to turn off some or all of the front lights to maintain visibility, while at the same time the rear lights are especially important.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Sun Jul 06 09:13:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-269-NFPA 1900-2026](#)

Statement: This long term text got lost in last minute 2024 restructuring of the electrical chapter. this clarification is very important. Most fire apparatus has had these switches since the master warning switch came out. particularly in heavy snow or fog, it is often necessary to turn off some or all of the front lights to maintain visibility, while at the same time the rear lights are especially important.

**Public Input No. 52-NFPA 1900-2024 [Section No. A.10.7.10]****A.10.7.10 —**

~~Warning lights mounted close to headlights are less visible to other drivers because of glare from the headlights. Warning lights mounted close to turn signals, clearance lights, and brake lights can make those lights less visible for the same reason. The purchaser and apparatus designer should consider these factors in determining the locations for emergency warning lights.~~

Statement of Problem and Substantiation for Public Input

Deleting this text because the body text went away. This annex material is added to the end of A10.7.11 on PI 54

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 54-NFPA 1900-2024 [Section No. A.10.7.11]	
Public Input No. 51-NFPA 1900-2024 [Section No. 10.7.10]	
Public Input No. 51-NFPA 1900-2024 [Section No. 10.7.10]	
Public Input No. 54-NFPA 1900-2024 [Section No. A.10.7.11]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 15:38:35 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-267-NFPA 1900-2026](#)

Statement: The committee is deleting this text and annex material as this statement is not measurable. "impair effectiveness" is completely subjective. The annex material suggests that it is the physical proximity of one light to another that can impair the effectiveness, but there is no indication of how close is too close.

**Public Input No. 353-NFPA 1900-2025 [New Section after A.10.7.11]****A.10.7.12.2 Steady Lights**

Flashing light patterns that have a component that remains on at a fraction of the peak "on" intensity, rather than going off completely, provide better closure detection and visual tracking by the approaching driver.

Statement of Problem and Substantiation for Public Input

Studies have shown (see Rea, M.S. and Bullough, J.D., "Toward Performance Specifications for Flashing Warning Beacons," Transportation Research

Part F: Traffic Psychology and Behavior 43:36-47, 2016, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6221192/> particularly section 4.2.) that lights that

stay on dimly in the "Off" time improve a driver's ability to recognize that they are approaching the lights and judge the size and position of the emergency

vehicle. This language defines these lights as flashing lights, and part of the calculation for optical power. The appearance of these lights is more like the

old rotating mirror lights that remained visible in between the bright flashes as direct visibility of the bulb and reflection from inside the lens provided a

background light.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Sat Jul 05 16:18:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-272-NFPA 1900-2026](#)

Statement: Studies have shown (see Rea, M.S. and Bullough, J.D., "Toward Performance Specifications for Flashing Warning Beacons," Transportation Research Part F: Traffic Psychology and Behavior 43:36-47, 2016, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6221192/> particularly section 4.2.) that lights that stay on dimly in the "Off" time improve a driver's ability to recognize that they are approaching the lights and judge the size and position of the emergency vehicle. This language defines these lights as flashing lights, and part of the calculation for optical power. The appearance of these lights is more like the old rotating mirror lights that remained visible in between the bright flashes as direct visibility of the bulb and reflection from inside the lens provided a background light.

**Public Input No. 54-NFPA 1900-2024 [Section No. A.10.7.11]****A.10.7.11**

~~When a component such as a flasher or power supply is used to operate more than one optical source, the optical sources should be connected so. The intent of this section is to ensure that the failure of this a single component does not create leave a warning zone without a warning signal either from the upper or lower level. Although a single optical source can be used to provide warning signals into more than one zone, the possibility of a total signal failure at a measurement point is increased when the same flasher or power supply is used to operate multiple optical sources, each providing signals into more than one zone. light. It may be that a failure would lose an upper light, but there would still be at least one other light(s) (a lower, or a lower and another upper, etc.) to provide conspicuity.~~

When locating lights also consider the impact of warning lights on any surrounding DOT lighting. Warning lights mounted close to headlights are less visible to other drivers because of glare from the headlights. Warning lights mounted close to turn signals, clearance lights, and brake lights can make those lights less visible for the same reason. The purchaser and apparatus designer should consider these factors in determining the locations for emergency warning lights.

Statement of Problem and Substantiation for Public Input

Revised to be more clear about the intent of the body text.

Also added text that used to be associated with 10.7.10

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document**Related Input****Relationship**

[Public Input No. 53-NFPA 1900-2024 \[Section No. 10.7.11\]](#)

[Public Input No. 51-NFPA 1900-2024 \[Section No. 10.7.10\]](#)

[Public Input No. 52-NFPA 1900-2024 \[Section No. A.10.7.10\]](#)

[Public Input No. 52-NFPA 1900-2024 \[Section No. A.10.7.10\]](#)

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 24 15:48:51 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-268-NFPA 1900-2026](#)

Statement: If you read the annex to this paragraph it talks about the risk of losing a power source or flasher that is supplying multiple lights. This is not how the body text reads. During a FAMA group discussion we had three intelligent individuals all interpret the intent of this wording differently. It was pointed out that there will always be one failure mode where no amount of redundancy will stop the lights from going out - alternator failure. This change provides a simple specification that meets the intent that any single light failure will not leave a zone without a flashing light. Updated the annex text to be more clear about the intent of the body text.

**Public Input No. 56-NFPA 1900-2024 [Sections A.10.7.14, A.10.7.14.5, A.10.7.15, A.10.7.15.2.2]****Sections A.10.7.14, A.10.7.14.5, A.10.7.15, A.10.7.15.2.2****A.10.7.14 —**

The minimum optical warning system should require no more than an average of 40 A for the operation of the upper-level and lower-level devices in the blocking mode. On apparatus whose length requires midship lights, no more than 5 A of additional current should be required for the operation of each set of midship lights. Optical warning systems drawing more than 40 A might necessitate modification of the electrical system specified in Section 10.3 to supply the additional power required.

See Figure A.10.7.14(a) and Figure A.10.7.14(b) for illustrations of an optical warning system on a large fire apparatus.

Figure A.10.7.14(a) Front and Left Side of an Apparatus with an Optical Warning System.

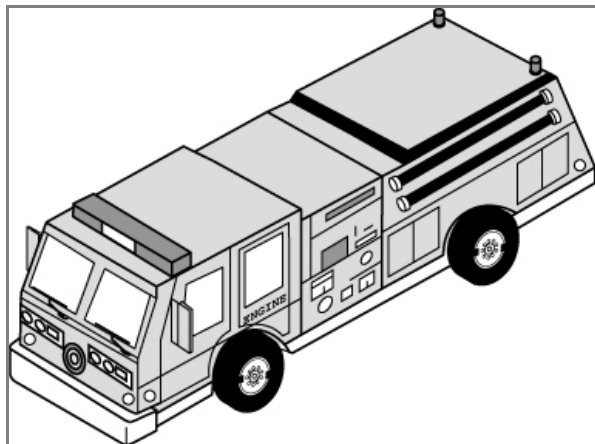
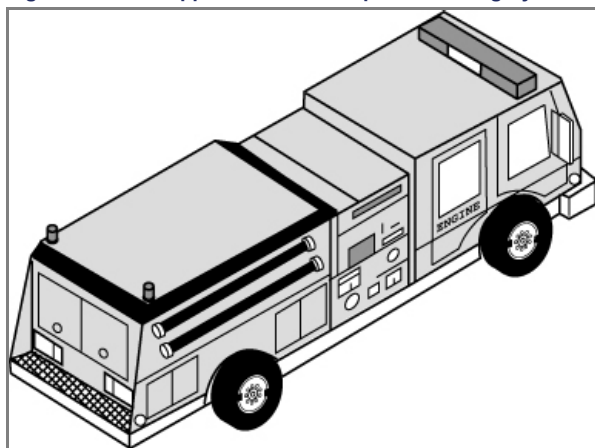


Figure A.10.7.14(b) Rear and Right Side of an Apparatus with an Optical Warning System.

**A.10.7.14.5 — 15.1 —**

The zone totals reflect the combined performance of the individual optical warning devices oriented as intended on the apparatus when viewed along the perimeter of a circle of 100 ft (30.5 m) radius from the geometric center of the apparatus.

The zone total is the sum of the optical power of all optical sources projecting signals of permissible color into the zone as measured at 5 degree increments along the horizontal plane passing through the optical center *H* throughout the 90 degrees included in the zone (19 data points). The calculation of zone totals assumes that all optical sources are mounted at the geometric center of the apparatus. With the optical center of each optical source oriented as installed, the optical power contributed by every optical source at a given point is taken from the test report, and they are added together to determine the total optical power at that point. The zone total is the sum of the optical power at the 19 measurement points in the zone. The upper- and lower-level optical sources are calculated independently.

The engineering basis of ~~Section 13.6 permits~~ Zone Totals permits both the design and the certification of an optical warning system by mathematical combination of the individual test reports for any number of optical warning devices of different color, flash rate, optical source, and manufacturer.

Using the test reports provided by the device manufacturer, the contribution of optical energy from each optical source is determined for every data point. The total candela-seconds per minute of optical energy is determined at each point, and then the zone totals are calculated and compared to Table 10.7.14.5.

A.10.7.15

~~The minimum optical warning system should require no more than an average of 35 A for the operation of the devices in the blocking mode.~~

~~:~~

~~A.10.7.15.~~

~~2~~

~~.2~~

~~--~~

~~Small vehicle configurations come in many body configurations. Some allow for convenient mounting of independent upper rear beacons, and some do not. An example would be a pick-up truck with a slide in skid unit. Given the size and geometric mounting parameters of a small vehicle, a single lightbar with 360 degrees of conspicuity will have comparable optical characteristics as a lightbar with front and side signal only in combination with rear beacons.~~

Statement of Problem and Substantiation for Public Input

Eliminate sections where the advent of LEDs has changed the typical power values. Correct paragraph numbering to match revision from linked PI 55.

Correct a reference to "section 13.6". We could find no section 13.6 that had any rational connection. The section number is replaced with the term "Zone Totals" which fits with the rest of the sentence.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 55-NFPA 1900-2024 [Sections 10.7.14, 10.7.15]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 24 16:46:55 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-273-NFPA 1900-2026

Statement: Rewrite and reorganize for clarity. Most of the text for small vs large apparatus is simply repeated in these sections. The changes reduce the words you need to read by about half, and those items that are specific to apparatus size become more apparent. During the review we also found two items between small and large apparatus that had been overlooked in previous revisions. No substantive changes to the requirements are made. 10.7.14.1, 10.7.15.1. The reference to 8 ft 6 inches was eliminated because we already state that the lights should be as high as practical for both small and large apparatus. The math was therefore unnecessary. The photometric output of the upper warning devices remains but was clarified. 10.7.15.3.1 was eliminated. The text requiring seeing two zones at once is eliminated for three reasons: 1)The text only applied to small vehicles the way it was written. 2)The statement could conflict with zone measurement. 3) There was really no problem with the way apparatus are designed that we needed this statement to solve.

Eliminate sections where the advent of LEDs has changed the typical power values. Correct paragraph numbering to match revision from linked PI 55.

Correct a reference to "section 13.6". We could find no section 13.6 that had any rational connection. The section number is replaced with the term "Zone Totals" which fits with the rest of the sentence.

**Public Input No. 214-NFPA 1900-2025 [Section No. A.10.7.14.5]****A.10.7.14.5**

The zone totals reflect the combined performance of the individual optical warning devices oriented as intended on the apparatus when viewed along the perimeter of a circle of 100 ft (30.5 m) radius from the geometric center of the apparatus.

The zone total is the sum of the optical power of all optical sources projecting signals of permissible color into the zone as measured at 5 degree increments along the horizontal plane passing through the optical center *H* throughout the 90 degrees included in the zone (19 data points). The calculation of zone totals assumes that all optical sources are mounted at the geometric center of the apparatus. With the optical center of each optical source oriented as installed, the optical power contributed by every optical source at a given point is taken from the test report, and they are added together to determine the total optical power at that point. The zone total is the sum of the optical power at the 19 measurement points in the zone. The upper- and lower-level optical sources are calculated independently.

The engineering basis of ~~Section 13~~ Section 10.6.7 permits both the design and the certification of an optical warning system by mathematical combination of the individual test reports for any number of optical warning devices of different color, flash rate, optical source, and manufacturer.

Using the test reports provided by the device manufacturer, the contribution of optical energy from each optical source is determined for every data point. The total candela-seconds per minute of optical energy is determined at each point, and then the zone totals are calculated and compared to Table 10.7.14.5.

Statement of Problem and Substantiation for Public Input

Correct reference.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 14:49:23 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-273-NFPA 1900-2026](#)

Statement: Rewrite and reorganize for clarity. Most of the text for small vs large apparatus is simply repeated in these sections. The changes reduce the words you need to read by about half, and those items that are specific to apparatus size become more apparent. During the review we also found two items between small and large apparatus that had been overlooked in previous revisions. No substantive changes to the requirements are made. 10.7.14.1, 10.7.15.1. The reference to 8 ft 6 inches was eliminated because we already state that the lights should be as high as practical for both small and large apparatus. The math was therefore unnecessary. The photometric output of the upper warning devices remains but was clarified. 10.7.15.3.1 was eliminated. The text requiring seeing two zones at once is eliminated for three reasons: 1)The text only applied to small vehicles the way it was written. 2)The statement could conflict with zone measurement. 3) There was really no problem with the way apparatus are designed that we needed this statement to solve.

Eliminate sections where the advent of LEDs has changed the typical power values. Correct paragraph numbering to match revision from linked PI 55.

Correct a reference to "section 13.6". We could find no section 13.6 that had any rational connection. The section number is replaced with the term "Zone Totals" which fits with the rest of the sentence.

**Public Input No. 383-NFPA 1900-2025 [Section No. A.10.8.1.2]****A.10.8.1.2.2.4**

If the purchaser wishes to have the siren controls within convenient reach of persons riding in both the right and left front seat positions, that should be specified. In some apparatus, multiple control switches might be necessary to achieve convenient reach from the two positions. If other signal devices, such as an additional siren, bell, air horn(s), or buzzer are desired, the type of device and its control location also should be specified.

Statement of Problem and Substantiation for Public Input

Change section number to match reorganized text.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ELECTRICAL TASK GROUP FOR NFPA 1900.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 381-NFPA 1900-2025 [Section No. 10.8]	
Public Input No. 381-NFPA 1900-2025 [Section No. 10.8]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 17 16:48:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-275-NFPA 1900-2026](#)

Statement: Put back the exception for wildland fire apparatus sirens got lost in the consolidation of 1901 and 1906 and to adjust the annex A material to the correct section of text.

**Public Input No. 380-NFPA 1900-2025 [Section No. A.10.10.3]****A.10.10.3**

Manually operated floodlights on telescoping poles are not required to be tied into the ~~hazard light~~ in "Features Not Stowed" ~~indication in~~ the driving compartment. If the purchaser wishes that these devices be tied into the ~~hazard light~~ "Features Not Stowed" indicator or otherwise equipped with an indicator to warn the operator the floodlights are in the up position, that should be specified in the purchase specification.

Statement of Problem and Substantiation for Public Input

Revised to match the name change from PI 57

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 57-NFPA 1900-2024 [Section No. 10.10]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 17 14:57:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-279-NFPA 1900-2026](#)

Statement: Re-named from Hazard Light to Features Not Stowed light. Avoid confusion since the Hazard Light name is used in automotive terms to mean the flashing hazard light required by FMVSS 108. Reworded the subsection requirements for conciseness and consistency Deleted the requirement for the light to be labeled with a sign. Many modern apparatus show a visual indication on a display screen of exactly which door is open or which feature is ajar. This is much more helpful than the red light and sign specified by the original authors of this standard. Added a requirement for an audible alert in addition to the visual alert. This is something the majority of the apparatus manufacturers do already and is a reasonable part of a driver alert.

**Public Input No. 318-NFPA 1900-2025 [New Section after A.10.11]****A10.11.2.1 Backup Camera Microphones**

Some backup camera systems may be offered with an audio pick-up that allows the operator in the cab to hear what is going on behind the vehicle. While this offering has good intentions, it is not practical in conjunction with pedestrian alert backup alarms. When the vehicle is in reverse, the microphone will pick up the backup alarm over any other noise at the rear of the vehicle. The reverse alarm coming over the cab speaker will cause a distraction and annoyance to the operator and could tempt them to disconnect the alarm.

Statement of Problem and Substantiation for Public Input

This annex item provides the explanation for why the back-up camera should not include a microphone feature.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 317-NFPA 1900-2025 [Section No. 10.11]	
Public Input No. 58-NFPA 1900-2024 [Section No. 10.11]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jun 27 08:35:42 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-280-NFPA 1900-2026](#)

Statement: Proposed addition allows for fire departments to meet local ordinances in a way that avoids the risk of the backup alarm being removed or bypassed permanently. Removed the backup camera field of view requirement because the way it is written is meaningless. There is nothing that specifies where the measurements are to be taken (on the ground horizontally, or vertically at some distance behind the vehicle). Nor do the values indicate which direction to take each measurement (width or height, or distance back, etc.) FMVSS 111 specifies field of view through a complex test of specific sized objects placed behind the vehicle. We could refer to this FMVSS requirement for passenger cars, or alternatively we could use the FMVSS requirement for school bus. But from a practical standpoint fire apparatus manufacturers are going to install commercially available camera systems that are likely to meet one or the other already. There is no FMVSS requirement for back-up camera field of view for heavy truck since a backup camera is not a heavy truck requirement.

The added annex item provides the explanation for why the back-up camera should not include a microphone feature.

**Public Input No. 59-NFPA 1900-2024 [Section No. A.10.11]****A.10.11**

The purchaser might wish to add camera(s) at the sides or rear of a vehicle with cab monitoring screens or automatic vehicle-stopping devices that sense an obstruction at the rear of the vehicle. In addition, angled backup lights mounted in the wheel well areas will provide additional scene lighting for personnel who might be at the side of the vehicle or lighting of folding tanks or other obstacles on the side of the apparatus. Any such devices will improve safety while vehicles are backing.

The back-up alarm in this requirement may violate municipal or sub-division ordinances that prohibit heavy vehicles from making noise during nighttime hours. Departments subject to such restrictions in their response may specify an alarm silence feature, but that feature should be designed so that it resets with the power cycle to minimize the risk that the alarm will not sound when needed during busy daylight hours. Proposed addition allows for fire departments to meet local ordinances in a way that avoids the risk of the backup alarm being removed or bypassed permanently.

Statement of Problem and Substantiation for Public Input

Added explanation of the alarm silence requirements from PI 58.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 58-NFPA 1900-2024 [Section No. 10.11]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Affiliation: FAMA

Street Address:

City:

State:

Zip:

Submittal Date: Thu Dec 26 09:55:24 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: [FR-280-NFPA 1900-2026](#)

Statement: Proposed addition allows for fire departments to meet local ordinances in a way that avoids the risk of the backup alarm being removed or bypassed permanently. Removed the backup camera field of view requirement because the way it is written is meaningless. There is nothing that specifies where the measurements are to be taken (on the ground horizontally, or vertically at some distance behind the vehicle). Nor do the values indicate which direction to take each measurement (width or height, or distance back, etc.) FMVSS 111 specifies field of view through a complex test of specific sized objects placed behind the vehicle. We could refer to this FMVSS requirement for passenger cars, or alternatively we could use the FMVSS requirement for school bus. But from a practical standpoint fire apparatus manufacturers are going to install commercially available camera systems that are likely to meet one or the other already. There is no FMVSS requirement for back-up camera field of view for heavy truck since a backup camera is not a heavy truck requirement.

The added annex item provides the explanation for why the back-up camera should not include a microphone feature.

**Public Input No. 382-NFPA 1900-2025 [New Section after A.10.13.1]****A10.13 - Battery Charger/Conditioner Test**

Certain fleet managers may wish to specify a battery charger/conditioner test prior to delivery. This test may be useful to compare to future NFPA 1910 testing so they have a baseline to start with. The following test procedure may be considered:

- (1) Low voltage batteries are fully charged to at least 12.66 V for a 12 V nominal system, 25.32 V for a 24 V nominal system, and 37.98 V for a 42 V nominal system with the engine off and the shoreline disconnected.
- (2) Connect a dc ammeter to each output of the low voltage battery charger/conditioner.
- (3) Connect the shoreline to power the low voltage battery charger/conditioner.
- (4) Perform the test with the engine off and the shoreline power cord connected.
- (5) Add or apply loads to each charger output so that the output current is between 80 percent and 100 percent of the rated output current for that output.
- (6) Record the low voltage battery voltage and output current for each charger output at the beginning of the test and every 20 minutes.
- (7) Maintain the load for 60 minutes.
- (8) Record the low voltage battery voltage and output current for each charger output at the end of the test with the load still applied and the charger/conditioner powered.
- (9) Remove any added load.

The test shall be considered a failure if the charger/conditioner does not maintain an output voltage of at least 12.54 V for a 12 V nominal system, 25.08 V for a 24 V nominal system, and 37.62 V for a 42 V nominal system, or if it cannot maintain at least 80 percent of the rated output current for the duration of the test.

Statement of Problem and Substantiation for Public Input

Battery Charger/Conditioner test moved to annex in support of PI62

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 62-NFPA 1900-2024 [Section No. 10.13.5]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jul 17 15:57:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-285-NFPA 1900-2026

Statement: Battery Charger/Conditioner test moved to annex in support of PI62.



Public Input No. 244-NFPA 1900-2025 [Section No. A.11.1.1]

A.11.1.1

Typically, while engaged in firefighting operations on structural fires, apparatus are positioned in a safe location, and hose is extended as necessary to discharge water or suppressants on the combustible material.

In wildland fire suppression, mobile attack is often utilized in addition to stationary pumping. In mobile attack, sometimes referred to as "pump-and-roll," water is discharged from the apparatus while the vehicle is in motion. Pump-and-roll operations are inherently more dangerous than stationary pumping because the apparatus and personnel are in close proximity to the fire combined with the additional exposure to hazards caused by a vehicle in motion, often on uneven ground. The personnel and/or apparatus could thus be more easily subject to injury or damage due to accidental impact, rollover, and/or environmental hazards, including burn over.

To potentially mitigate against the increased risk inherent with pump-and-roll operations, the following alternatives are provided for consideration:

- (1) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, and water is discharged via a monitor or turret that is controlled from within the apparatus.
- (2) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, but water is discharged with a short hose line or hard line out an open cab window.
- (3) Driver is located inside the apparatus in a seated, belted position within the enclosed cab with one or more firefighters seated and belted in the on-board pump-and-roll firefighting position as described in a following section.
- (4) Driver is located inside the apparatus in a seated, belted position within the enclosed cab. Firefighter(s) is located outside the cab, walking alongside the apparatus, in clear view of the driver, discharging water with a short hose line.

Under no circumstances is it ever considered a safe practice to ride standing or seated on the exterior of the apparatus for mobile attack other than seated and belted in an on-board pump-and-roll firefighting position.

The on-board pump-and-roll firefighting position should only be used when the following conditions are met:

- (1) The apparatus is actively engaged in mobile attack on the fire line.
- (2) The fuel model is characterized as fine fuels.
- (3) The ground is level, flat, and free of obstacles.
- (4) Driver visibility is unobstructed.
- (5) Vehicle speeds are no greater than 10 mph.
- (6) The firefighter is wearing full protective ~~NFPA 1977~~ NFPA 1950 -compliant personal protective equipment and is equipped with a fire shelter.

On-Board Pump-and-Roll Firefighting Position. If an on-board pump-and-roll firefighting position as described as follows is provided, it should only be on a wildland fire apparatus with a GVWR of no more than 19,500 lb.

If an on-board pump-and-roll firefighting position is provided, it should, at minimum, include the following safety-related attributes:

- (1) A seat with an approved Type 1 seat belt for each firefighting position
- (2) Controls required by the operator within reach without removing the seat belt
- (3) A means of communication with the driver
- (4) One safety sign warning of the hazards of this riding position that is substantially similar to FAMA44, which warns of riding safety procedures, and the maximum speed of 10 mph visible from the pump-and-roll firefighting position
- (5) Safety sign FAMA45, which warns of driving safety procedures, and the maximum speed of 10 mph visible from the driver's position or visible to the driver while entering the cab

If the seating position is located outside the cab, it should also meet the following requirements:

- (1) The seating position should be located behind the cab and ahead of the rear axle.
- (2) A protective structure should be provided in compliance with the side impact and crush criteria from SAE J1194, *Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors*.
- (3) The protective structure should be designed to allow exit from either side of the vehicle.
- (4) The protective structure should include a perforated plate or mesh with openings no larger than 1.5 in. (3.8 cm) × 1.5 in. (3.8 cm) or other solid guard to protect from brush hazards at the front, the back, and the roof. This is to protect against objects such as limbs entering the seating enclosure. Woven wire cloth with ¼ in. (0.6 cm) diameter wire spaced at 1 ¾ in. (4.4 cm) on centers is commonly used in the forestry industry to provide this protection.
- (5) A door or gate with a latching mechanism should be provided on each side of the vehicle designed to allow exit out of either side of the vehicle.
 - (a) The door or gate should be designed to prevent outward swing even in the event of failure of the latching mechanism.
 - (b) The door or gate should be at least 48 in. (1200 mm) high from the walking surface below the firefighter's feet.
 - (c) The door or gate should be constructed so there are no horizontal or vertical openings below the 48 in. (1200 mm) minimum height greater than 24 in. (610 mm) in either direction.

Equipment located within the seating enclosure position protective structure should meet the requirements of 11.1.11.

Development of this Design. Firefighting is an inherently dangerous operation. This is especially true of fighting a moving wildland fire in fine fuels. There are many techniques used and a great deal of discussion about the safest way to fight these fires. Over the years, many fire companies and apparatus manufacturers have developed techniques and equipment for fighting wildland fine-fuel fires. These have included fighting fire from seats mounted to front bumpers, sitting on hoods or hose reels, standing on flat beds, standing in step wells on the side of apparatus, standing on running boards, or walking alongside a moving apparatus. All of these approaches are extremely dangerous. The Fire Department Apparatus Committee did extensive work to try to come up with a safer solution. We looked at the available apparatus and techniques that have been historically used in the industry. The preceding suggestions are safer than any of these ad-hoc techniques. The Fire Service Occupational Safety and Health Committee

(NFPA-1500 ~~NFPA 1550~~) does not approve of any fireground operations that permit the firefighter to ride outside the fully enclosed cab of a moving apparatus.

Statement of Problem and Substantiation for Public Input

Update referenced documents due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 12:10:54 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-45-NFPA 1900-2026](#)

Statement: Update referenced documents due to consolidation.



Public Input No. 315-NFPA 1900-2025 [Section No. A.11.1.1]

A.11.1.1

Typically, while engaged in firefighting operations on structural fires, apparatus are positioned in a safe location, and hose is extended as necessary to discharge water or suppressants on the combustible material.

In wildland fire suppression, mobile attack is often utilized in addition to stationary pumping. In mobile attack, sometimes referred to as "pump-and-roll," water is discharged from the apparatus while the vehicle is in motion. Pump-and-roll operations are inherently more dangerous than stationary pumping because the apparatus and personnel are in close proximity to the fire combined with the additional exposure to hazards caused by a vehicle in motion, often on uneven ground. The personnel and/or apparatus could thus be more easily subject to injury or damage due to accidental impact, rollover, and/or environmental hazards, including burn over.

To potentially mitigate against the increased risk inherent with pump-and-roll operations, the following alternatives are provided for consideration:

- (1) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, and water is discharged via a monitor or turret that is controlled from within the apparatus.
- (2) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, but water is discharged with a short hose line or hard line out an open cab window.
- (3) Driver is located inside the apparatus in a seated, belted position within the enclosed cab with one or more firefighters seated and belted in the on-board pump-and-roll firefighting position as described in a following section.
- (4) Driver is located inside the apparatus in a seated, belted position within the enclosed cab. Firefighter(s) is located outside the cab, walking alongside the apparatus, in clear view of the driver, discharging water with a short hose line.

Under no circumstances is it ever considered a safe practice to ride standing or seated on the exterior of the apparatus for mobile attack other than seated and belted in an on-board pump-and-roll firefighting position.

The on-board pump-and-roll firefighting position should only be used when the following conditions are met:

- (1) The apparatus is actively engaged in mobile attack on the fire line.
- (2) The fuel model is characterized as fine fuels.
- (3) The ground is level, flat, and free of obstacles.
- (4) Driver visibility is unobstructed.
- (5) Vehicle speeds are no greater than 10 mph.
- (6) The firefighter is wearing full protective NFPA 1977-compliant personal protective equipment and is equipped with a fire shelter.

On-Board Pump-and-Roll Firefighting Position . If an on-board pump-and-roll firefighting position as described as follows is provided, it should only be on a wildland fire apparatus with a GVWR of no more than 19,500 lb.

If an on-board pump-and-roll firefighting position is provided, it should, at minimum, include the following safety-related attributes:

- (1) A seat with an approved Type 1 seat belt for each firefighting position
- (2) Controls required by the operator within reach without removing the seat belt
- (3) A means of communication with the driver
- (4) One safety sign warning of the hazards of this riding position that is substantially similar to FAMA44, which warns of riding safety procedures, and the maximum speed of 10 mph visible from the pump-and-roll firefighting position
- (5) Safety sign FAMA45, which warns of driving safety procedures, and the maximum speed of 10 mph visible from the driver's position or visible to the driver while entering the cab

If the seating position is located outside the cab, it should also meet the following requirements:

- (1) The seating position should be located behind the cab and ahead of the rear axle.
- (2) A protective structure should be provided in compliance with the side impact and crush criteria from SAE J1194, *Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors* .
- (3) The protective structure should be designed to allow exit from either side of the vehicle.
- (4) The protective structure should include a perforated plate or mesh with openings no larger than 1.5 in. (3.8 cm) × 1.5 in. (3.8 cm) or other solid guard to protect from brush hazards at the front, the back, and the roof. This is to protect against objects such as limbs entering the seating enclosure. Woven wire cloth with $\frac{1}{4}$ in. (0.6 cm) diameter wire spaced at 1 $\frac{3}{4}$ in. (4.4 cm) on centers is commonly used in the forestry industry to provide this protection.
- (5) A door or gate with a latching mechanism should be provided on each side of the vehicle designed to allow exit out of either side of the vehicle.
- (6) The door or gate should be designed to prevent outward swing even in the event of failure of the latching mechanism.
- (7) The door or gate should be at least 48 in. (1200 mm) high from the walking surface below the firefighter's feet.
- (8) The door or gate should be constructed so there are no horizontal or vertical openings below the 48 in. (1200 mm) minimum height greater than 24 in. (610 mm) in either direction.

attack

Equipment located within the seating enclosure position protective structure should meet the requirements of 11.1.11.

Development of this Design. Firefighting is an inherently dangerous operation. This is especially true of fighting a moving wildland

fire in fine fuels. There are many techniques used and a great deal of discussion about the safest way to fight these fires. Over the years, many fire companies and apparatus manufacturers have developed techniques and equipment for fighting wildland fine-fuel fires. These have included fighting fire from seats mounted to front bumpers, sitting on hoods or hose reels, standing on flat beds, standing in step wells on the side of apparatus, standing on running boards, or walking alongside a moving apparatus. All of these approaches are extremely dangerous. The Fire Department Apparatus Committee did extensive work to try to come up with a safer solution. We looked at the available apparatus and techniques that have been historically used in the industry. The preceding suggestions are safer than any of these ad-hoc techniques. The Fire Service Occupational Safety and Health Committee (NFPA 1500) does not approve of any fireground operations that permit the firefighter to ride outside the fully enclosed cab of a moving apparatus.

Statement of Problem and Substantiation for Public Input

This section contradicts NFPA 1500 6.3.1

Fire fighters cannot be allowed to ride on the outside of apparatus in order to fight wildland fires. The Risk Management Committee (RMC) of the National Wildfire Coordinating Group (NWCG) represents the US Forest Service, Bureau of Land Management, Bureau of Indian Affairs, US Fish and Wildlife Service, National Park Service, National Association of State Foresters, Intertribal Timber Council, International Association of Fire Chiefs, and the US Fire Administration. Their position is that the practice of fire fighters riding on the outside of vehicles and fighting wildland fires from these positions is very dangerous, and they strongly recommend this not be allowed. One issue is the exposure to personnel in unprotected positions. Persons have been killed while performing this operation. Also, the vehicle driver's vision is impaired. The second issue is that this is not an effective way to extinguish the fire, as it can allow the vehicle to pass over or by areas not completely extinguished. Fire can then flare up underneath or behind the vehicle and could cut off escape routes. The RMC and the NWCG strongly recommend that two fire fighters, each with a hose line, walk ahead and aside of the vehicle's path, both fire fighters on the same side of the vehicle (not one on each side), in clear view of the driver, with the vehicle being driven in uninvolved terrain. This allows the fire fighters to operate in an unhurried manner, with a clear view of fire conditions and the success of the extinguishment. Areas not extinguished should not be bypassed unless follow-up crews are operating behind the lead unit and there is no danger to escape routes or to personnel.

Submitter Information Verification

Submitter Full Name: Zachary Smith

Organization: City of Syracuse Fire Department

Affiliation: IAFF

Street Address:

City:

State:

Zip:

Submission Date: Wed Jun 25 14:22:52 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The 1901 apparatus committee spent countless hours debating this topic during the 2016 revision cycle of NFPA 1906. The criteria for an on-board fire-fighting position was carefully considered and includes specifications for numerous safety features including seat belts, Roll-Over Protective Structure (ROPS), and safety signs providing the use at slow speeds only. As this is part of the annex material, it is not mandatory, but rather provides the fire apparatus community with a well thought-out and safe way to accomplish operations that departments in the fine-fuels and flat areas of Oklahoma and similar states are going to perform with or without the approval of NFPA. The Apparatus Committee concluded that it was far better for us to offer good guidance rather than to be silent and pretend that pump and roll from a moving apparatus will never happen.



Public Input No. 452-NFPA 1900-2025 [Section No. A.11.1.1]

A.11.1.1

Typically, while engaged in firefighting operations on structural fires, apparatus are positioned in a safe location, and hose is extended as necessary to discharge water or suppressants on the combustible material.

In wildland fire suppression, mobile attack is often utilized in addition to stationary pumping. In mobile attack, sometimes referred to as "pump-and-roll," water is discharged from the apparatus while the vehicle is in motion. Pump-and-roll operations are inherently more dangerous than stationary pumping because the apparatus and personnel are in close proximity to the fire combined with the additional exposure to hazards caused by a vehicle in motion, often on uneven ground. The personnel and/or apparatus could thus be more easily subject to injury or damage due to accidental impact, rollover, and/or environmental hazards, including burn over.

To potentially mitigate against the increased risk inherent with pump-and-roll operations, the following alternatives are provided for consideration:

- (1) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, and water is discharged via a monitor or turret that is controlled from within the apparatus.
- (2) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, but water is discharged with a short hose line or hard line out an open cab window.
- (3) Driver is located inside the apparatus in a seated, belted position within the enclosed cab
~~with one or more firefighters seated and belted in the on-board pump-and-roll firefighting position as described in a following section~~
- (4) .
- (5) ~~Driver is located inside the apparatus in a seated, belted position within the enclosed cab. Firefighter(s) is located outside the cab, walking alongside the apparatus, in clear view of the driver, discharging water with a short hose line.~~

Under no circumstances is it ever considered a safe practice to ride standing or seated on the exterior of the apparatus for mobile attack ~~other than seated and belted in an on-board pump-and-roll firefighting position .~~

~~The on-board pump-and-roll firefighting position should only be used when the following conditions are met:~~

- (1) ~~The apparatus is actively engaged in mobile attack on the fire line.~~
- (2) ~~The fuel model is characterized as fine fuels.~~
- (3) ~~The ground is level, flat, and free of obstacles.~~
- (4) ~~Driver visibility is unobstructed.~~
- (5) ~~Vehicle speeds are no greater than 10 mph.~~
- (6) ~~The firefighter is wearing full protective NFPA 1977-compliant personal protective equipment and is equipped with a fire shelter.~~

On-Board Pump-and-Roll Firefighting Position .If an on-board pump-and-roll firefighting position as described as follows is provided, it should only be on a wildland fire apparatus with a GVWR of no more than 19,500 lb.

If an on-board pump-and-roll firefighting position is provided, it should, at minimum, include the following safety-related attributes:

- (1) A seat with an approved Type 1 seat belt for each firefighting position
- (2) Controls required by the operator within reach without removing the seat belt
- (3) A means of communication with the driver
- (4) One safety sign warning of the hazards of this riding position that is substantially similar to FAMA44, which warns of riding safety procedures, and the maximum speed of 10 mph visible from the pump-and-roll firefighting position
- (5) Safety sign FAMA45, which warns of driving safety procedures, and the maximum speed of 10 mph visible from the driver's position or visible to the driver while entering the cab

If the seating position is located outside the cab, it should also meet the following requirements:

- (1) ~~The seating position should be located behind the cab and ahead of the rear axle.~~
- (2) A protective structure should be provided in compliance with the side impact and crush criteria from SAE J1194, *Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors* .
- (3) The protective structure should be designed to allow exit from either side of the vehicle.
- (4) ~~The protective structure should include a perforated plate or mesh with openings no larger than 1.5 in. (3.8 cm) x 1.5 in. (3.8 cm) or other solid guard to protect from brush hazards at the front, the back, and the roof. This is to protect against objects such as limbs entering the seating enclosure. Woven wire cloth with $\frac{1}{4}$ in. (0.6 cm) diameter wire spaced at $\frac{3}{4}$ in. (1.9 cm) on centers is commonly used in the forestry industry to provide this protection.~~
- (5) A door or gate with a latching mechanism should be provided on each side of the vehicle designed to allow exit out of either side of the vehicle.
- (6) The door or gate should be designed to prevent outward swing even in the event of failure of the latching mechanism.
- (7) The door or gate should be at least 48 in. (1200 mm) high from the walking surface below the firefighter's feet.
- (8) The door or gate should be constructed so there are no horizontal or vertical openings below the 48 in. (1200 mm) minimum height greater than 24 in. (610 mm) in either direction.

Equipment located within the seating enclosure position protective structure should meet the requirements of 11.1.11.

Development of this Design. Firefighting is an inherently dangerous operation. This is especially true of fighting a moving wildland fire in fine fuels. There are many techniques used and a great deal of discussion about the safest way to fight these fires. Over the years, many fire companies and apparatus manufacturers have developed techniques and equipment for fighting wildland fine-fuel fires. These have included fighting fire from seats mounted to front bumpers, sitting on hoods or hose reels, standing on flat beds, standing in step wells on the side of apparatus, standing on running boards, or ~~walking alongside a moving apparatus on-board pump-and-roll firefighting positions~~. All of these approaches are extremely dangerous. The Fire Department Apparatus Committee did extensive work to try to come up with a safer solution. We looked at the available apparatus and techniques that have been historically used in the industry. ~~The preceding suggestions are safer than any of these ad-hoc techniques.~~ The Fire Service Occupational Safety and Health Committee (NFPA 1500) does not approve of any fireground operations that permit the firefighter to ride outside the fully enclosed cab of a moving apparatus.

Statement of Problem and Substantiation for Public Input

Riding positions anywhere on the apparatus other than a seated belted position inside the cab are inappropriate. For wildland fire mobile attach the preferred method is walking alongside the apparatus. The on-board pump-and-roll firefighting position should be removed from the standard, even as annex material.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Street Address:

City:

State:

Zip:

Submission Date: Wed Aug 27 15:57:06 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The 1901 apparatus committee spent countless hours debating this topic during the 2016 revision cycle of NFPA 1906. The criteria for an on-board fire-fighting position was carefully considered and includes specifications for numerous safety features including seat belts, Roll-Over Protective Structure (ROPS), and safety signs providing the use at slow speeds only. As this is part of the annex material, it is not mandatory, but rather provides the fire apparatus community with a well thought-out and safe way to accomplish operations that departments in the fine-fuels and flat areas of Oklahoma and similar states are going to perform with or without the approval of NFPA. The Apparatus Committee concluded that it was far better for us to offer good guidance rather than to be silent and pretend that pump and roll from a moving apparatus will never happen.



Public Input No. 7-NFPA 1900-2024 [Section No. A.11.1.1]

A.11.1.1

Typically, while engaged in firefighting operations on structural fires, apparatus are positioned in a safe location, and hose is extended as necessary to discharge water or suppressants on the combustible material.

In wildland fire suppression, mobile attack is often utilized in addition to stationary pumping. In mobile attack, sometimes referred to as "pump-and-roll," water is discharged from the apparatus while the vehicle is in motion. Pump-and-roll operations are inherently more dangerous than stationary pumping because the apparatus and personnel are in close proximity to the fire combined with the additional exposure to hazards caused by a vehicle in motion, often on uneven ground. The personnel and/or apparatus could thus be more easily subject to injury or damage due to accidental impact, rollover, and/or environmental hazards, including burn over.

To potentially mitigate against the increased risk inherent with pump-and-roll operations, the following alternatives are provided for consideration:

- (1) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, and water is discharged via a monitor or turret that is controlled from within the apparatus.
- (2) Driver and firefighter(s) are located inside the apparatus in a seated, belted position within the enclosed cab, but water is discharged with a short hose line or hard line out an open cab window.
- (3)
- (4) Driver is located inside the apparatus in a seated, belted position within the enclosed cab
with one or more firefighters seated and belted in the on-board pump-and-roll firefighting position as described in a following section
- (5) .
- (6) ~~Driver is located inside the apparatus in a seated, belted position within the enclosed cab. Firefighter(s) is located outside the cab, walking alongside the apparatus, in clear view of the driver, discharging water with a short hose line.~~

Under no circumstances is it ever considered a safe practice to ride standing or seated on the exterior of the apparatus for mobile attack other than seated and belted in an on-board pump-and-roll firefighting position.

The on-board pump-and-roll firefighting position should only be used when the following conditions are met:

- (1) ~~The apparatus is actively engaged in mobile attack on the fire line.~~
- (2) ~~The fuel model is characterized as fine fuels.~~
- (3) ~~The ground is level, flat, and free of obstacles.~~
- (4) ~~Driver visibility is unobstructed.~~
- (5) ~~Vehicle speeds are no greater than 10 mph.~~
- (6) ~~The firefighter is wearing full protective NFPA 1977-compliant personal protective equipment and is equipped with a fire shelter.~~

On-Board Pump-and-Roll Firefighting Position .If an on-board pump-and-roll firefighting position as described as follows is provided, it should only be on a wildland fire apparatus with a GVWR of no more than 19,500 lb.

If an on-board pump-and-roll firefighting position is provided, it should, at minimum, include the following safety-related attributes:

- (1) ~~A seat with an approved Type 1 seat belt for each firefighting position~~
- (2) ~~Controls required by the operator within reach without removing the seat belt~~
- (3) ~~A means of communication with the driver~~
- (4) ~~One safety sign warning of the hazards of this riding position that is substantially similar to FAMA44, which warns of riding safety procedures, and the maximum speed of 10 mph visible from the pump-and-roll firefighting position~~
- (5) ~~Safety sign FAMA45, which warns of driving safety procedures, and the maximum speed of 10 mph visible from the driver's position or visible to the driver while entering the cab~~

If the seating position is located outside the cab, it should also meet the following requirements:

- (1) ~~The seating position should be located behind the cab and ahead of the rear axle.~~
- (2) ~~A protective structure should be provided in compliance with the side impact and crush criteria from SAE J1194, *Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors* .~~
- (3) ~~The protective structure should be designed to allow exit from either side of the vehicle.~~
- (4) ~~The protective structure should include a perforated plate or mesh with openings no larger than 1.5 in. (3.8 cm) × 1.5 in. (3.8 cm) or other solid guard to protect from brush hazards at the front, the back, and the roof. This is to protect against objects such as limbs entering the seating enclosure. Woven wire cloth with $\frac{1}{4}$ in. (0.6 cm) diameter wire spaced at $1\frac{3}{4}$ in. (4.4 cm) on centers is commonly used in the forestry industry to provide this protection.~~
- (5) ~~A door or gate with a latching mechanism should be provided on each side of the vehicle designed to allow exit out of either side of the vehicle.~~
- (6) ~~The door or gate should be designed to prevent outward swing even in the event of failure of the latching mechanism.~~
- (7) ~~The door or gate should be at least 48 in. (1200 mm) high from the walking surface below the firefighter's feet.~~
- (8) ~~The door or gate should be constructed so there are no horizontal or vertical openings below the 48 in. (1200 mm) minimum height greater than 24 in. (610 mm) in either direction.~~

Equipment located within the seating enclosure position protective structure should meet the requirements of 11.1.11.

Development of this Design . Firefighting is an inherently dangerous operation. This is especially true of fighting a moving wildland fire in fine fuels. There are many techniques used and a great deal of discussion about the safest way to fight these fires. Over the years, many fire companies and apparatus manufacturers have developed techniques and equipment for fighting wildland fine-fuel fires. These have included fighting fire from seats mounted to front bumpers, sitting on hoods or hose reels, standing on flat beds, standing in step wells on the side of apparatus, standing on running boards, or walking alongside a moving apparatus. All of these approaches are extremely dangerous. The Fire Department Apparatus Committee did extensive work to try to come up with a safer solution. We looked at the available apparatus and techniques that have been historically used in the industry. The preceding suggestions are safer than any of these ad-hoc techniques. The Fire attack

The Fire Service Occupational Safety and Health Committee (NFPA 1500) does not approve of any fireground operations that permit the firefighter to ride outside the fully enclosed cab of a moving apparatus.

Statement of Problem and Substantiation for Public Input

This issue has been an ongoing concern that NFPA documents should not conflict with other documents, NFPA 1550 directly says that the only riding positions allowed in seated, belted inside an enclosed cab. Even in the Annex this material is in direct conflict with NFPA 1550.

Submitter Information Verification

Submitter Full Name: Rick Swan

Organization: International Association of F

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 14 12:41:34 EDT 2024

Committee: FDA-AAA

Committee Statement

Resolution: The 1901 apparatus committee spent countless hours debating this topic during the 2016 revision cycle of NFPA 1906. The criteria for an on-board fire-fighting position was carefully considered and includes specifications for numerous safety features including seat belts, Roll-Over Protective Structure (ROPS), and safety signs providing the use at slow speeds only. As this is part of the annex material, it is not mandatory, but rather provides the fire apparatus community with a well thought-out and safe way to accomplish operations that departments in the fine-fuels and flat areas of Oklahoma and similar states are going to perform with or without the approval of NFPA. The Apparatus Committee concluded that it was far better for us to offer good guidance rather than to be silent and pretend that pump and roll from a moving apparatus will never happen.

**Public Input No. 365-NFPA 1900-2025 [Section No. A.11.1.3.8]****A.11.1.3.8**

The seat belt warning system is intended to aid the driver or officer in determining if all occupants are seated and belted in apparatus where the size of the cab or the number of occupants might make an assessment difficult. For small vehicles with small cabs and fewer occupants, this check can be accomplished visually or verbally without the need for a complicated electronic system.

NHTSA has published a final rule updating FMVSS 208 with new seat belt warning requirements, but they only apply to vehicles less than 10,000 lb GVWR, and there are additional exemptions for police cars and ambulances. So if an apparatus is designed with a GVWR of less than 10,000 lbs it should comply with the FMVSS 208 requirements.

Statement of Problem and Substantiation for Public Input

Add explanation for revisions from PI364

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 364-NFPA 1900-2025 [Section No. 11.1.3]	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 14 21:46:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-50-NFPA 1900-2026

Statement: In 11.1.3 who “approves” the seat belt is not defined. The requirement that makes sure the seat belt will accommodate firefighters with heavy clothing is included in the following length specifications, so the phrase by itself is not meaningful. This proposed revision is intended to remind occupants to buckle their belts without exposing them to the continual distraction that is caused when a faulty sensor, connector, wire creates a buzzer that will not shut off. The 4 to 8 seconds language is borrowed from the pre-2027 passenger car requirements of FMVSS 208. Car manufacturers have gone beyond the FMVSS requirements, but it is all voluntary. NFPA created the complicated and extensive seat belt alert requirements beginning in 2009 with good intent. The problem is that this complexity requires both buckle sensors and cushion sensors in each seat with all the associated wiring. Seat cushion sensors are activated by the weight of the occupant, which can be lost when the occupant shifts weight, lifts briefly off the seat, or during rough rides. The more seats, belts, and sensors, the greater the frequency of failures or false negatives. A constant buzzer will increase driver stress and distraction that subjectively is just as dangerous as forgetting to buckle up. NHTSA has published a final rule updating FMVSS 208 with new seat belt warning requirements, but they only apply to vehicles less than 10,000 lb GVWR, and there are additional exemptions for police cars and ambulances.

**Public Input No. 373-NFPA 1900-2025 [New Section after A.12.12.4.4]****A.12.13.1**

The purchaser should specify the type of rotating, telescoping, panning, and tilting operations as well as other features that are required.

A.12.13.2

When the mast is mounted above the apparatus driving and crew compartment or the body, a brush and tree limb guard should be considered to protect the mast and masthead.

A.12.13.2.3

To reduce the electrocution hazards associated with the operation of masts above the apparatus, the purchaser should consider specifying a slide-out operator's platform, a wireless remote control, or both.

A.12.13.2.8

The masthead assembly should be supported when it is in transport mode, to prevent damage to the masthead assembly from vibration.

Statement of Problem and Substantiation for Public Input

Annex text from A.21.14 moves along with main body text.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS/BODY TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]	
Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]	
Public Input No. 371-NFPA 1900-2025 [Section No. 22.13]	
Public Input No. 372-NFPA 1900-2025 [Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8]	
Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]	
Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]	
Public Input No. 371-NFPA 1900-2025 [Section No. 22.13]	
Public Input No. 372-NFPA 1900-2025 [Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jul 15 12:25:42 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-409-NFPA 1900-2026

Statement: This text combines 21.14 (light masts) and 22.13 (command center masts) into generic information for any mast.



Public Input No. 245-NFPA 1900-2025 [Section No. A.13.2.2]

A.13.2.2

If the apparatus is equipped with an automatic transmission, it is acceptable to lightly apply throttle and brakes for short periods of time to maintain this requirement.

If the vehicle is to be used for simultaneous pump-and-roll and firefighting while the vehicle is moving, remote controlled nozzle(s) or turret(s) should be considered. See also A.6 8 .3.1 of NFPA-1500 NFPA 1550 .

Statement of Problem and Substantiation for Public Input

Update referenced documents due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Fri May 23 12:15:25 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-314-NFPA 1900-2026

Statement: The engine and drivetrain may not be used to create pump and roll. Some apparatus use separate engines or motors for pump and roll so the drive engine and drivetrain is not involved.

Updating due to consolidation.

**Public Input No. 342-NFPA 1900-2025 [Section No. A.13.3.1]****A.13.3.4**

The purchaser might want to consider a supplementary heat exchanger cooling system for the pump drive engine. If utilized, valving should be installed to permit water from the discharge side of the pump to cool the coolant circulating through the engine cooling system without intermixing. The heat exchanger should maintain the temperature of the coolant in the pump drive engine not in excess of the engine manufacturer's temperature rating under all pumping conditions. A drain(s) should be provided to allow draining of the heat exchanger to prevent damage from freezing.

Statement of Problem and Substantiation for Public Input

Move this text reference since original deleted by Public Input 329.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 329-NFPA 1900-2025 [Sections 13.3.1, 13.3.2]	
Public Input No. 329-NFPA 1900-2025 [Sections 13.3.1, 13.3.2]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jul 02 18:30:10 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee has chosen to not make this update due to PI 329 being rejected.

**Public Input No. 64-NFPA 1900-2024 [Section No. A.13.7.9]****A.13.7.9**

Where possible, discharge outlets should be positioned in an area away from the pump operator's position.

If a deck gun or monitor is to be mounted on the top of the apparatus, consideration should be given to designing the system so it can be operated without the need for a person to climb to the top of the apparatus. This can be accomplished by using a remotely operated monitor or by positioning the device so it is operable from the pump operator's position.

Prudent safe operation dictates that we do not want large diameter discharge hose near a pump operator while the hose is pressurized. Some modern pump control systems include a remote control pad that can allow the operator to control the pump without standing near the traditional pump operator's panel. Other systems allow pump control from multiple locations on the apparatus. If LDH discharge is located at the main pump panel location then the apparatus should be equipped with other locations from which to control the pump operation so the operator can perform their work away from pressurized LDH.

Statement of Problem and Substantiation for Public Input

Add explanation for PI 63.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 63-NFPA 1900-2024 [Section No. 13.7.9.1]</u>	

Submitter Information Verification

Submitter Full Name: James Lackore

Organization: REV Fire Group

Street Address:

City:

State:

Zip:

Submittal Date: Thu Dec 26 13:58:37 EST 2024

Committee: FDA-AAA

Committee Statement

Resolution: FR-417-NFPA 1900-2026

Statement: Prudent safe operation dictates that we do not want large diameter discharge hose near a pump operator while the hose is pressurized. Some modern pump control systems such as the IDEX SAM system have a remote control pad that can allow the operator to control the pump without standing near the traditional pump operator's panel. Other systems allow pump control from multiple locations on the apparatus. In fact, if the apparatus is equipped with control displays on both sides and the back of the apparatus, the literal interpretation of the standard would mean that the apparatus could not be equipped with any LDH discharge at all (since large discharges are not practical at the front of the truck because the large piping interferes with the front suspension, wheels, tires, etc.).

A reasonable compromise is to allow LDH at a traditional pump panel location as long as the apparatus is equipped with other locations from which to control the pump operation, or if the system has a remote control. It is also then prudent to add a warning label to educate the operator that they should not operate around a large diameter discharge while it is flowing.

**Public Input No. 215-NFPA 1900-2025 [Section No. A.13.10.4.1]****A.13.10.4.1**

Pressure control systems can be supplied in the following forms:

- (1) Integral with the pump and supplied by the pump manufacturer
- (2) As an external system of components supplied by the apparatus manufacturer
- (3) As an external control system provided by a pressure control manufacturer
- (4) Properly selected pump, PTO ratio, and discharge sizes to limit pressure rise to less than 30 psi (207 kPa)

Pressure governors control the engine speed, which relates directly to the net pump pressure: If the speed is raised, the pressure goes up; if the speed is lowered, the pressure goes down.

Discharge relief valves control pressure by passing water from the discharge side of the pump back into the intake side of the pump. This type of system works in a pressure differential of at least 70 psi to 90 psi (500 kPa to 600 kPa) between the intake and discharge sides of the pump. If the pressure differential is not present, the discharge relief valve might not control a pressure rise completely.

If either a discharge relief valve or a pressure governor is used with high incoming inlet pressures, an intake relief valve or total control system should be added.

In the case where an intake relief valve is selected, it should be of sufficient size and response time to handle the pump performance range. It should also be easily controlled by the pump operator so that this incoming pressure can be adjusted for each incident. For best results, the operator should set the intake relief valve to operate at 90 psi (600 kPa) below the desired discharge operating pressure.

~~The pressure control system should be certified by the appropriate manufacturer or an independent third-party certification organization. Because of the importance of these systems, the purchaser might wish to have performance tests conducted on the installed system.~~

Statement of Problem and Substantiation for Public Input

This last comment is no longer needed because this testing is now required in 13.13.4.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 15:41:34 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-315-NFPA 1900-2026

Statement: This last comment is no longer needed because this testing is now required in 13.13.4.

**Public Input No. 216-NFPA 1900-2025 [Section No. A.13.12.1.1]****A.13.12.1.1**

~~A pumping engine.~~ The pumping engine is usually the chassis engine, but can be a separate engine See 13.3.4. If the pump is driven by a separate engine, a pumping engine, fuel level indicator or red warning light indicating when the fuel level falls below one-fourth of the capacity of the tank(s) should be provided on the pump operator's panel.

Statement of Problem and Substantiation for Public Input

It is only in the unusual situation that a structural engine has a separate engine and then this light is needed.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 21 15:45:05 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-346-NFPA 1900-2026](#)

Statement: The term "installed as a group" is not measurable and is therefore removed. Controls and instrumentation is divided into their respective sections and reworded to allow the information to be displayed without specifically calling for a "gauge". Updated to accommodate EV apparatus. The requirement to keep the pump controls away from discharges has been in this standard for a long time, but it has never been followed on the vast majority of apparatus. The most popular configuration chosen by fire departments is the side mount pump panel with mechanical valve controls. The valve control linkages in this configuration must be installed close to the pump to make them work practically, which inherently places them close to pump discharges. Top mount pump panel configuration will move the operator out of the path of the discharge lines, but it adds its own risk, making the operator climb steps to operate the valves. Electrical valves with a remote control is another possible solution, but the added technology has not been popular because of the practical worries around losing the remote device or concern over the technology. Electric valves also add greatly to the cost of the apparatus and some are concerned with reliability. The desire to move the pump operator away from the discharges becomes a trade-off that must be weighed by the authority having jurisdiction. The requirement is not a minimum standard and should be removed from this standard. An annex item is added to help the purchaser with the trade-offs. The statement about instruments being weatherproof was not measurable. Added IP67 rating requirement. 13.12.1.5 was not meaningful and therefore removed.

**Public Input No. 356-NFPA 1900-2025 [Section No. A.13.13.2.3.2]****A.13.13.2.3.2**

Where an engine is operating at or near full power while stationary, the heat generated could raise the temperature of certain chassis or pumping system components above the level that, when touched, could cause extreme discomfort or injury. However, as long as the apparatus can be operated and used satisfactorily for the required duration of the test under such conditions, it should be considered acceptable.

The suction lift can be determined either by measuring the negative pressure (vacuum) in the pump intake manifold with a test gauge that measures vacuum accurately or by adding the vertical lift and the value of friction and entrance loss from Table 13.2.4.1(b) or Table 13.2.4.1(c). To be accurate, gauge readings should be corrected for the difference between the height of the gauge and the centerline of the pump intake, but usually this is not a significant amount and could be ignored. Thus, the net pump pressure can be calculated by using the following formulas.

For inch-pound US Customary units:

$$P = D + (H \times 0.5) \quad [\text{A.13.13.2.3.2a}]$$

or

$$P = D + 0.43(L + F) \quad [\text{A.13.13.2.3.2b}]$$

where:

P = net pump pressure (psi)

D = discharge pressure (psi gauge)

H = vacuum gauge reading (in. Hg)

L = vertical lift (ft)

F = friction and entrance loss (ft of water)

For SI units:

$$P_m = D_m + H_m \quad [\text{A.13.13.2.3.2c}]$$

or

$$P_m = D_m + F_m + 9.8L_m \quad [\text{A.13.13.2.3.2d}]$$

where:

P_m = net pump pressure (kPa)

D_m = discharge pressure (kPa)

H_m = vacuum gauge reading (kPa)

F_m = friction and entrance loss (kPa)

L_m = vertical lift (m)

Statement of Problem and Substantiation for Public Input

Make the terminology for US units consistent throughout the document.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jul 07 12:24:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-317-NFPA 1900-2026](#)

Statement: Make the terminology for US units consistent throughout the document.

**Public Input No. 217-NFPA 1900-2025 [New Section after A.14.1]****A.14.2.1**

Ultra-high pressure pumps of 1100 psi and above are covered in chapter 16.

Statement of Problem and Substantiation for Public Input

UHP pumps are used on wildland trucks, but are not covered here.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 21 15:49:26 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: UH pressure pumps have their own chapter. There is not a need to direct the reader to that chapter



Public Input No. 246-NFPA 1900-2025 [Section No. A.15.2.2.1]

A.15.2.2.1

If the apparatus is equipped with an automatic transmission, it is acceptable to lightly apply throttle and brakes for short periods of time to maintain a maximum speed of 2 mph (3.2 km/hr). If the vehicle is to be used for simultaneous pump-and-roll and firefighting while the vehicle is moving, remote controlled nozzle(s) or turret(s) should be considered. See also A.6 8 .3.1 of NFPA 1500 NFPA 1550 .

Heavy braking in combination with moderate to heavy throttle can create a large amount of heat in the automatic transmission converter and brakes that could lead to damage.

Statement of Problem and Substantiation for Public Input

Update referenced documents due to consolidation.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1.1]	
Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 12:17:32 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-328-NFPA 1900-2026

Statement: Update referenced documents due to consolidation.

**Public Input No. 542-NFPA 1900-2025 [New Section after A.15.6.2.2]****A.15.6.4**

Slow operating valves on intakes is the industry standard to protect against water hammer conditions due to valves being closed quickly. Slow operating valves on intakes used for drafting can cause difficulties maintaining pump prime under certain conditions where the water source is not adequate on wildland fires. Intakes used for drafting without slow operating valves should be considered where pumping operations from draft are frequent and pumping from a hydrant is infrequent. Proper fireground procedures are required.

Statement of Problem and Substantiation for Public Input

Slow operating valves can cause a loss of pump prime during pump operations when throttling the valves between supplying from the tank and from draft when water sources are barely adequate but that's all you have. This should be a choice for departments and agencies that are primary wildland and rarely use hydrants or series pumping operations moving large GPMs

Submitter Information Verification

Submitter Full Name: R. J. Johnson

Organization: US Department of the Interior

Street Address:

City:

State:

Zip:

Submission Date: Wed Sep 03 14:45:26 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-347-NFPA 1900-2026](#)

Statement: Slow operating valves can cause a loss of pump prime during pump operations when throttling the valves between supplying from the tank and from draft when water sources are barely adequate but that's all you have. This should be a choice for departments and agencies that are primary wildland and rarely use hydrants or series pumping operations moving large GPMs. Annex material has been submitted to support this decision.

For the new annex text, Slow operating valves can cause a loss of pump prime during pump operations when throttling the valves between supplying from the tank and from draft when water sources are barely adequate but that's all you have. This should be a choice for departments and agencies that are primary wildland and rarely use hydrants or series pumping operations moving large GPMs

**Public Input No. 463-NFPA 1900-2025 [Section No. A.15.10.5.3]****A.15.10.5.3**

For best priming and pump performance when priming from the suction with the pump running, the following should be adhered to:

- (1) A check valve ~~should~~ could be used at the discharge of the pump.
- (2) The prime should be taken at the eye of the impeller or at the top of the intake to the pump.
- (3) A ~~smooth bell-shaped strainer inlet should be used on the end of the suction hose.~~ A foot valve should not be used.
- (4) Suction hose should only be as long as necessary.
- (5) There should be no humps in the suction hose.

Statement of Problem and Substantiation for Public Input

This is a recommendation from the NFPA 1900 Pump Task Group.

This text should either be cleaned up or removed. Chapter 13 does not have this wording in the Annex for the full pump systems.

Submitter Information Verification

Submitter Full Name: Brian Johnson

Organization: Waterous Company

Affiliation: NFPA 1900 Pump Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Aug 27 17:22:11 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-329-NFPA 1900-2026](#)

Statement: The committee is making these changes to clean up the text and for document consistency.



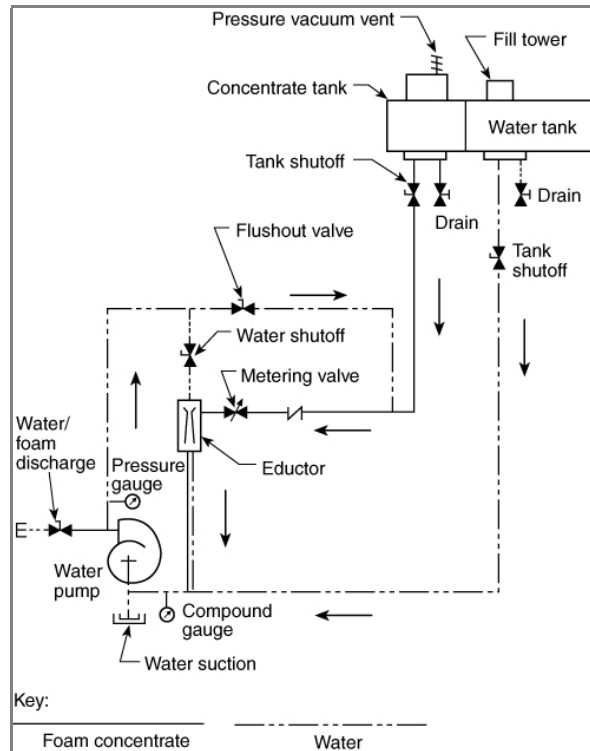
Public Input No. 218-NFPA 1900-2025 [Section No. A.18.2.4]

A.18.2.4

Around-the-pump proportioning systems operate with an eductor installed between the water pump discharge and the intake. A small flow of water from the water pump discharge passes through the eductor, which creates a vacuum that causes foam concentrate to be pushed into the eductor and discharged into the pump intake. Around-the-pump foam proportioning systems require a significant pressure differential of 30 percent to 50 percent of inlet pressure for efficient between inlet and discharge for operation.

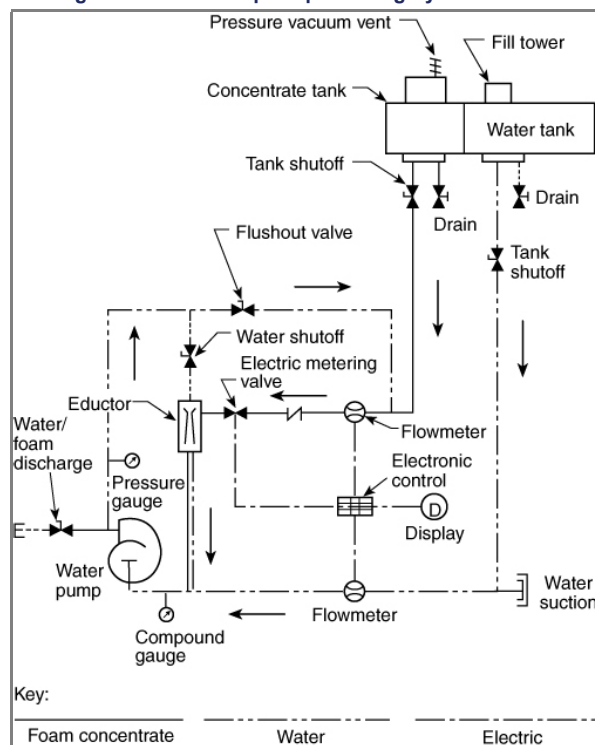
A manual around-the-pump proportioning system utilizes a manually adjustable foam concentrate metering valve to control the proportioning ratio. [See Figure A.18.2.4(a).]

Figure A.18.2.4(a) Manual Around-the-Pump Proportioning System.



A flowmeter sensing around-the-pump proportioning system utilizes a flowmeter sensing system to monitor total solution flow and foam concentrate flow. The flow data are transmitted to an electronic control that regulates the proportioning ratio through a foam concentrate metering valve. [See Figure A.18.2.4(b).]

Figure A.18.2.4(b) Flowmeter Sensing Around-the-Pump Proportioning System.



Statement of Problem and Substantiation for Public Input

The existing statement is wrong (most systems require inlet pressure <5psi) and just senseless (from tank or draft as normally used, inlet pressure is 0 to negative so 30%-50% of inlet pressure would be 0 to slightly negative for outlet to inlet differential pressure).

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 16:44:09 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-91-NFPA 1900-2026](#)

Statement: The existing statement is wrong (most systems require inlet pressure <5psi) and just senseless (from tank or draft as normally used, inlet pressure is 0 to negative so 30%-50% of inlet pressure would be 0 to slightly negative for outlet to inlet differential pressure).



Public Input No. 305-NFPA 1900-2025 [Section No. A.18.10.1]

A.18.10.1

The following are four methods for testing a foam proportioning system for calibration accuracy:

- (1) Substituting water for foam concentrate
- (2) Measuring foam concentrate pump output directly
- (3) Determining foam percentage by use of a refractometer
- (4) Determining foam percentage by use of a conductivity meter

Test Method 1: Substituting Water for Foam Concentrate. The foam proportioning system is operated at the waterflow rates at which the system is to be tested. Water is used as a substitute for foam concentrate. The substitute water for the foam concentrate is drawn from a calibrated tank instead of foam concentrate from the foam concentrate tank. The volume of water drawn from the calibrated tank divided by the volume of water pumped over the same time period multiplied by 100 represents the percentage of foam the foam proportioning system is producing.

Test Method 2: Measuring Foam Concentrate Pump Output Directly. With some direct injection systems, it is possible to directly measure the foam concentrate pump output. With the foam proportioning system operating at a given waterflow rate and either foam concentrate or water used as a substitute for foam concentrate, the output of the foam concentrate pump is measured by diverting that output into a calibrated container for direct measurement over a given period of time. An alternative is to measure the foam concentrate or water substitute flow with a calibrated meter.

Test Method 3: Determining Foam Percentage by Use of a Refractometer. A refractometer is used to measure the refractive index of a foam solution sample.

First, a base calibration curve is prepared using the same water and foam concentrate that will be used with the system to be tested. Three known foam solution samples are needed and should include the following:

- (1) The nominal intended percentage
- (2) The nominal intended percentage plus 1 percent
- (3) The nominal intended percentage minus 1 percent

If the nominal intended percentage is 1 percent or less, the three samples should be as follows:

- (1) The nominal intended percentage
- (2) The nominal intended percentage plus 0.3 percent
- (3) The nominal intended percentage minus 0.3 percent

The required amount of water is placed in a 100 mL or larger graduated cylinder, leaving space for the foam concentrate. A 10 mL pipette or 10 cc syringe is used to carefully add the required amount of foam concentrate to the water. Each measured foam solution is then poured from the graduated cylinder into a 100 mL or larger plastic bottle, and the bottle is marked indicating the percentage solution it contains. The bottle is capped and thoroughly shaken to mix the foam solution.

An alternative method for making the three foam solution samples is to use a very accurate scale. The density of the foam concentrate must be known and can be found on the product data sheet or the safety data sheet (SDS) for the foam concentrate. For example, to make a 100 mL sample of a 3 percent foam solution using a foam concentrate with a density of 1.04, 97 g of water is measured into a beaker and 3.12 g of foam concentrate is added to the beaker ($1.04 \times 3 \text{ g} = 3.12 \text{ g}$).

After the foam solution samples are thoroughly mixed, a refractive index reading is taken of each foam solution sample. This is done by placing a few drops of the solution on the refractometer prism, closing the cover plate, and observing the scale reading at the dark field intersection. Because the refractometer is temperature compensated, it could take 10 seconds to 20 seconds for the sample to be read properly. It is important to take all refractometer readings at ambient temperatures of 50°F (10°C) or above.

Using standard graph paper, the refractive index readings are plotted on one axis and the percentage of concentration on the other. This plotted curve serves as the known baseline for the test series. The solution samples should be set aside in the event the measurements need to be checked.

Foam solution samples are then collected from the proportioning system, making certain that the samples are taken at an adequate distance downstream from the foam proportioning system being tested to allow for complete mixing of the water and the foam concentrate. Refractive index readings of the samples are taken and compared to the plotted curve to determine the percentage of foam.

This method might not be accurate for aqueous film-forming foam (AFFF), alcohol-resistant foam, or certain other types of foam that typically exhibit very low refractive index readings. Also, the refractometer method should not be used when testing foam percentages of 1 percent or lower because the accuracy for determining the percentage of foam concentrate in a solution when using a refractometer is ± 0.1 percent, at best. For that reason, Test Method 4, the conductivity method, might be preferable where AFFF, alcohol-resistant foam, or 1 percent or less foam (Class A foam) is to be tested.

Test Method 4: Determining Foam Percentage by Use of a Conductivity Meter. The conductivity test method is based on changes in electrical conductivity as foam concentrate is added to water. Conductivity is a very accurate method, provided there are substantial changes in conductivity as foam concentrate is added to the water in relatively low percentages. Because saltwater and brackish water are very conductive, this method might not be suitable where these waters are used because of the small conductivity changes as foam concentrate is added. If saltwater or brackish water is used, it is necessary to make foam solutions in advance to determine if adequate changes in conductivity can be detected. This method cannot be used if the water has more total solids than the foam concentrate.

The following three variations of this test method can be used to determine the foam percentage by the conductivity method:

- (1) **Direct reading conductivity method.** A sample of the water to be used in the test is put in a 100 mL or larger container. The conductivity meter head is immersed in the water sample, and the meter display is set at zero. If the direct reading foam solution conductivity meter is mounted in a discharge line, the meter should be set at zero with plain water flowing.

If the conductivity meter manufacturer does not indicate that the percentage of foam solution can be read directly for the foam concentrate being used, a calibration curve needs to be developed. The calibration curve might show that the direct meter readings are correct for the foam concentrate being used, or it might indicate that the calibration curve needs to be used when that foam concentrate is used in the test.

The foam proportioning system is operated, and a sample of the foam solution produced by the system is collected using a 100 mL or larger container. The conductivity meter head is immersed in the foam solution sample, and the percentage of the foam solution is read on the meter display. If the conductivity meter is mounted in a discharge line, the percentage of the foam solution is read on the meter display while foam solution is being discharged.

(2) Conductivity

~~comparison method. A sample of the water to be used in the test is put in a 100 mL or larger container. Using a conductivity meter reading in microsiemens per centimeter (mscm), the conductivity value of the water sample is determined. The foam proportioning system is operated, and a sample of the foam solution produced by the system is collected in a 100 mL or larger container. Using the conductivity meter, the conductivity value of the foam solution sample is determined. The conductivity value of the water sample is subtracted from the conductivity value of the foam solution sample, and the result is divided by 500 to obtain the percentage of foam concentrate in the solution.~~

$$\text{percentage of foam} = \frac{\left(\text{conductivity of} \right) - \left(\text{conductivity} \right)}{500} \quad \text{[A.18.10.1]}$$

foam solution of water

~~Note that the divisor is 500 only if the conductivity meter units are microsiemens per centimeter. Other units of conductivity can be used, but the value of the divisor (500) will need to be adjusted.~~

- (3) Conductivity calibration curve method. A base calibration curve is prepared using the water and foam concentrate from the system to be tested. Three known foam solution samples are made using the procedure in Test Method 3. After the foam solution samples are thoroughly mixed, the conductivity of each solution is measured using a conductivity meter. Care should be taken to ensure that the proper procedures are used for taking readings and that the meter is switched to the correct conductivity range. Most synthetic-based foams used with freshwater result in foam solution conductivity readings of less than 2000 mscm. Protein-based foams used with freshwater generally produce conductivity readings in excess of 2000 mscm. Because of the temperature-compensation feature of the conductivity meter, it could take a short time to obtain a consistent reading.

Once the solution samples have been measured and recorded, the bottles should be set aside as control sample references. The conductivity readings then should be plotted on standard graph paper. It is more convenient to place the foam solution percentage on the horizontal axis and the conductivity readings on the vertical axis.

A straight line should be drawn that approximates the connection of all three points. While it might not be possible to connect all three points with a straight line, they should be very close. If not, the conductivity measurements should be repeated, and, if necessary, new control sample solutions should be prepared and used until all three points plot in a nearly straight line. This plot serves as the known base (calibration) curve to be used for the test series.

Once a base curve has been plotted, foam solution samples are collected from the proportioning system. The conductivity of the test samples is measured, and the percentage of foam solution is determined from the base curve. Foam solution samples that have been allowed to drain from expanded foam should not be used, because they can produce misleading conductivity readings.

Statement of Problem and Substantiation for Public Input

The constant 500 in this formula is very much dependent on the specific foam. For typical dissolved solids, it is typically around 650 to 750. For foam solutions it varies from about 80 for AFFF to 1630 for fluoroprotein foam according to one study (https://www.researchgate.net/publication/329534469_Proportioning_accuracy_of_foam_concentrate_testing_in_periodic_control_of_foam_fixed_extinguishing_systems/download). For solutions in salt water, the numbers are sometimes negative. For certain brackish water, it would even be 0 (if the conductivity of the water was equal to the conductivity of the foam. All this means that to do process 2, first the calibration process described in 3 must be done. The formula given is not accurate.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jun 11 18:34:10 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-92-NFPA 1900-2026](#)

Statement: The constant 500 in this formula is very much dependent on the specific foam. For typical dissolved solids, it is typically around 650 to 750. For foam solutions it varies from about 80 for AFFF to 1630 for fluoroprotein foam according to one study (https://www.researchgate.net/publication/329534469_Proportioning_accuracy_of_foam_concentrate_testing_in_periodic_control_of_foam_fixed_extinguishing_systems/download). For solutions in salt water, the numbers are sometimes negative. For certain brackish water, it would even be 0 (if the conductivity of the water was equal to the conductivity of the foam. All this means that to do process 2, first the calibration process described in 3 must be done. The formula given is not accurate.

**Public Input No. 85-NFPA 1900-2025 [Section No. A.21.3.1]****A.21.3.1**

It is important that all metal parts of the apparatus and the electrical system be bonded to the vehicle chassis. Any electrical boxes, conduits, or fixtures that are not permanently mounted to the metal body should be bonded to the protective ground wire. It is especially important that the metal light fixtures or housings of pole lights, light towers, and portable lights be grounded through the protective ground wire. *NFPA 70* requires the following:

The normally non-current-carrying metal parts of equipment and the equipment grounding conductor terminals of the receptacles are connected to the generator frame. [70:250.34(A)(2), 250.34(B)(3)]

Use of a ground rod on apparatus is not recommended. If one is used, the requirements of *NFPA 70*, Article 250, should be followed. These requirements are difficult to achieve in a portable application.

Supplying a building electrical system from a fire apparatus is not recommended, because it commits the apparatus to the task and requires a significantly different grounding scheme, at least while being used for this application, in accordance with *NFPA 70*, 250.20, "Alternating-Current (ac) Systems to Be Grounded"; 250.30, "Grounding Separately Derived ~~Alternating-Current AC~~ Systems"; and other applicable sections of *NFPA 70*. In this situation, the grounding allowed by 250.34 is no longer applicable.

Statement of Problem and Substantiation for Public Input

Update text to match NFPA 70-2026.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.
THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Related Public Inputs for This Document**Related Input****Relationship**

[Public Input No. 243-NFPA 1900-2025 \[Section No. I.1.1\]](#)

[Public Input No. 243-NFPA 1900-2025 \[Section No. I.1.1\]](#)

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed Apr 30 15:30:08 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-303-NFPA 1900-2026](#)

Statement: Update text to match NFPA 70-2026.

**Public Input No. 219-NFPA 1900-2025 [Section No. A.21.5.5]****A.21.5.5**

~~Brief descriptions of several different types of systems follow. All of these systems.~~ These systems can overload the low voltage electrical system and cause the load management system to terminate the generation of line voltage. As a result, the amount of line voltage power that can be supplied at any given time is totally dependent on the other, higher priority demands placed on the low voltage system.

~~*Dynamic Power Inverter.* - A dynamic power inverter converts alternator output power to 120 volts ac (or 120/240 volts ac). Power is electronically inverted to ac. Usually the largest system of this type is 7500 watts. Voltage and frequency control are typically very good. *Static Power Inverter.* - A static power inverter converts 12 volt to 14 volt dc power to 120 volt ac (or 120/240 volts ac) power. Power is electronically inverted to ac. Usually the largest system of this type is 2000 watts for vehicle use is 5000 watts but most are 2000-3000 watts . Voltage and frequency control are typically very good.~~

~~*Motor-Driven Generators.* - A motor-driven generator system converts 12-volt dc power to 120-volt ac (or 120/240 volts ac) power. The 12-volt dc motor drives an ac generator. Typical power ratings are less than 1600 watts. Voltage and frequency control are less precise than some of the other systems available. These types of systems are suited to providing electric power while the apparatus is in motion.~~

~~*Transformers.* - Transformer systems convert energy from the alternator, which is then rectified to 120-volt dc power. Typical installations provide 1000 watts. Output voltage is directly dependent on input voltage. Input voltage is dependent on engine and alternator speed. Inverters are available with modified sine wave and pure sine wave outputs. Pure sign wave output is needed for anything electronics, which is almost everything now.~~

In most cases, other power sources that do not draw power from the low voltage system are preferable.

Statement of Problem and Substantiation for Public Input

Inverters have improved greatly over the years in efficiency and cost. They have replaced all the other alternatives that were available 20 years ago.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Wed May 21 17:10:34 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-304-NFPA 1900-2026

Statement: Inverters have improved greatly over the years in efficiency and cost. They have replaced all the other alternatives that were available 20 years ago.

**Public Input No. 357-NFPA 1900-2025 [Section No. A.21.9.3.4]****A.21.9.3.4**

With 120/240 volt, and three phase, generators it is easier on the generator and other electrical components if the load is fairly balanced. It is not possible to design a fire apparatus to guarantee that the load will always be balanced, but some general assumptions about usage on the fire ground can improve the balance under typical usage.

Similar fixed loads should be paired on opposite legs of the power source where practicable. If pairs of receptacles are provided on the same side of the apparatus or on the front or rear of the apparatus, they should be connected to opposite legs of the power source. If two- 120 -volt cord reels are provided, they should be connected to opposite legs of the power source. 120/240-volt cord reels should always be connected to both legs of the power source volt scene lighting on the vehicle should alternate legs going around the vehicle .

Statement of Problem and Substantiation for Public Input

Requirement 21.9.3.4 is being deleted, leaving the existing text without an attachment point. This issue is still important, so this proposal moves the existing text and adds additional text to clarify the information.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Thu Jul 10 16:51:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-299-NFPA 1900-2026](#)

Statement: The way this text is written it does not produce an apparatus standard. Instead it suggests something that the designer of the apparatus shall "consider", and only to the "extent possible". The annex material is much more specific, and suggests ways the apparatus should be wired, rather than just asking the designer to "consider" something. The last statement in the related annex states that it "should always" be followed. Delete the current body text and move the last sentence from the annex to the body. Keep the rest of the annex language because it does provide good guidance. Even so, the guidance is based on guesses as to what will be plugged into the outlets. The best solution would be for the purchaser to specify what they intend to plug in, and which loads would be drawing at the same time.

**Public Input No. 220-NFPA 1900-2025 [Section No. A.21.12.6]****A.21.12.6**

The purchaser may want to specify that the cord on the reel be provided with a disconnect means within 18 in. (457 mm) from the reel for cord removal if the cord is 8 AWG or smaller. A disconnect makes it easier to replace damaged cord or to use the cord to extend another cord, although it reduces the capacity of the reel and makes it harder to coil the cord on the reel.

SEOOW, SOOW, and STOOW cords are similar but have some significant differences. All are water- and oil-resistant flexible cables. SOOW is rubber covered and typically the least expensive in initial cost. STOOW has a thermoplastic jacket that is significantly less flexible (harder to put on a reel) and more expensive. SEOOW has a thermoplastic elastomer jacket and polypropylene spacers. It is lighter (easier to drag), has a greater temperature range, the best chemical resistance (think battery acid, gasoline, chemicals in a garage or home fire), the greatest flexibility for easier reeling, slightly higher initial cost than SOOW, and most importantly for the fire service application, the jacket has a hard slippery outside surface for maximum durability, easier dragging, and easier cleaning.

Statement of Problem and Substantiation for Public Input

We have called for these 3 wire types for many years, but many users are not aware of the differences and the significant advantage of SEOOW cable.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE ELECTRICAL TASK GROUP.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 17:32:37 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-305-NFPA 1900-2026](#)

Statement: We have called for these 3 wire types for many years, but many users are not aware of the differences and the significant advantage of SEOOW cable.

**Public Input No. 372-NFPA 1900-2025 [Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8]****Sections A.21.14.1, A.21.14.2, A.21.14.2.3, A.21.14.2.8****A.21.14.1 —**

The purchaser should specify the type of rotating, telescoping, panning, and tilting operations as well as other features that are required.

A.21.14.2 —

When the light mast is mounted above the apparatus driving and crew compartment or the body, a brush and tree limb guard should be considered to protect the mast and floodlights.

A.21.14.2.3 —

To reduce the electrocution hazards associated with the operation of masts above the apparatus, the purchaser should consider specifying a slide-out operator's platform, a wireless remote control, or both.

A.21.14.2.8 —

The lighting assembly should be supported when it is in transport mode, to prevent damage to the lighting assembly from vibration.

Statement of Problem and Substantiation for Public Input

This text moved to A.12.13 with associated text.

THIS PUBLIC INPUT HAS BEEN REVIEWED AND APPROVED BY THE CHASSIS/BODY TASK GROUP.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]	
Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]	
Public Input No. 371-NFPA 1900-2025 [Section No. 22.13]	
Public Input No. 373-NFPA 1900-2025 [New Section after A.12.12.4.4]	
Public Input No. 369-NFPA 1900-2025 [New Section after 12.12.4.6]	
Public Input No. 370-NFPA 1900-2025 [Section No. 21.14]	
Public Input No. 371-NFPA 1900-2025 [Section No. 22.13]	
Public Input No. 373-NFPA 1900-2025 [New Section after A.12.12.4.4]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Tue Jul 15 12:24:57 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-409-NFPA 1900-2026](#)

Statement: This text combines 21.14 (light masts) and 22.13 (command center masts) into generic information for any mast.

**Public Input No. 221-NFPA 1900-2025 [Section No. A.22.10.1]****A.22.10.1**

The purchaser needs to provide the manufacturer of the apparatus with all the details of the equipment that is to be installed in the communications area, regardless of who is to install the equipment, so that the area can be laid out properly and appropriate cabinets and consoles can be provided to house this equipment.

The purchaser should also specify the number, size, and type of conduits for wiring and antennas from the communications area to the driving compartment, power supply area, exterior surfaces, or secondary operational or control panels that are necessary to support the installation of equipment by persons other than the body manufacturer. These conduits should have a pull wire installed to pull future wiring into place.

It can be very helpful to have the future installer of electronics or other equipment contribute to the information provided to the apparatus manufacturer about space, mounting, power, conduit, or other resources to be provided by the apparatus manufacturer.

Statement of Problem and Substantiation for Public Input

This is useful information to the specification writer and the apparatus manufacturer.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submission Date: Wed May 21 17:41:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-240-NFPA 1900-2026

Statement: This chapter has been re-written for clarity and conciseness.

In addition, the following have been significantly modified

Climate Control. Requirements for heating and air conditioning are eliminated. The performance values were not meaningful since they did not specify test conditions. We do not specify air conditioning or heating performance for fire apparatus in the rest of the chapters, yet apparatus come with heaters, and if specified, they come with air conditioning. If the committee feels that performance requirements for command and control apparatus are critical, then we need to come up with good criteria and should apply them to all apparatus.

Noise Level. Re-written to provide a minimum noise level using the same test as in chapter 11.1.6, but 10dB more stringent. While the test criteria does not exactly replicate the on-scene environment, it is a repeatable test and will ensure that the command and communication area has a level of sound insulation greater than the minimum required in a standard apparatus. Departments can always specify greater levels of insulation if they wish.

Working Surfaces. This criteria was eliminated as the text provided no measurable requirement

Seating and Equipment Storage. Revised for clarity and to rely on criteria already established in chapter 11.

Floor Covering. Intent was to have flooring that is easily cleaned, but the criteria was not measurable. Borrowed wording from the 1900 ambulance chapter.

Access handrails. Eliminated these sections as the criteria is already covered in chapters 11 and 12.

White-Boards. Eliminated this paragraph as it was not useful. Departments can and do specify what they want. They may want installed white-boards, or perhaps whiteboards mounted on easels. Anything loose will need a means of retaining them during travel, but that is already covered in chapter 11.

Electronic and video equipment mounting. The intent was to mount equipment in a way that it is protected from shock during transport. However there was no measurable criteria for this. The industry installs electronics in mobile applications routinely without special provisions, relying on the component manufacturer to design and test their equipment for resistance to vibration and shock.

Power operated Masts. Eliminated section 22.13. Another PI will move this material to chapter 12. Power operated masts for lighting or cameras or antennas can be found on any apparatus, not just those with command centers.

**Public Input No. 188-NFPA 1900-2025 [Section No. A.23.5]****A.23.5**

In some states in the United States, the regulations of the Occupational Safety and Health Administration (OSHA) of the Department of Labor have been interpreted to require that UN/ISO/ DOT cylinders be used for mobile air tanks to transport air on state highways. Some other states may require only ASME tanks. If UN/ISO/ DOT cylinders are not required by state regulations, ASME cylinders should be utilized as air tanks if the design of the apparatus presents a severe difficulty in the removal of cylinders for testing.

Statement of Problem and Substantiation for Public Input

California requires ASME tanks because they do not require periodic testing, while DOT and UN/ISO air cylinders do and the California OSHA and DOT can not guarantee that this testing will be done without making the apparatus unavailable. The purchaser and air system supplier need to be familiar with local regulations.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 180-NFPA 1900-2025 [Section No. 19.3.4]	
Public Input No. 187-NFPA 1900-2025 [Section No. 23.5.1.1]	
Public Input No. 189-NFPA 1900-2025 [Section No. 2.3.12]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Street Address:

City:

State:

Zip:

Submittal Date: Sun May 18 18:04:31 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-246-NFPA 1900-2026

Statement: California requires ASME tanks because they do not require periodic testing, while DOT and UN/ISO air cylinders do and the California OSHA and DOT can not guarantee that this testing will be done without making the apparatus unavailable. The purchaser and air system supplier need to be familiar with local regulations.



Public Input No. 436-NFPA 1900-2025 [New Section after A.27.2]

A.26.1 Brush rails could be mistakenly interpreted to mean the item commonly called rock sliders, side steps, running boards or nerf bars attached to the lower part of the chassis below the doors.

Statement of Problem and Substantiation for Public Input

Further clarification of what brush rails are to avoid confusion

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submittal Date: Mon Aug 25 15:30:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This has already been addressed by the creation of a definition.

**Public Input No. 435-NFPA 1900-2025 [Section No. A.27.2]****A.27.9.2**

Specification of vehicle air conditioning is a complex topic and cannot be accurately predicted by specifying a system with a particular Btu capacity. Btu capacity is often calculated for individual air-conditioning components, but will not reflect the actual output of the system nor guarantee a particular performance at the system level.

The performance of any vehicle air-conditioning system is dependent on many factors such as ambient temperature, humidity, solar load, duration of heat-soak, engine test rpm (i.e., refrigerant compressor speed), percent of fresh vs. recirculated air, and so on. The acceptability of a system has subjective criteria as well, such as the temperature and velocity of the vent air, whether the air can be directed at the occupant's face, and how quickly the system is able to attain the desired average temperature.

~~Purchasers who are particularly sensitive to air-conditioning performance might wish to consider specifying a system tested in accordance with SAE J2646, *Cab Air-Conditioning Test Procedure — Heavy Trucks with and without Sleepers*. Meeting a desired air-conditioning performance might require additional vehicle features, such as increased cab insulation or special window tinting.~~

Statement of Problem and Substantiation for Public Input

Moving the annex material to the correct location with the addition of the new HVAC requirement to the standard.

Submitter Information Verification

Submitter Full Name: William Yohn

Organization: US Department of the Interior

Affiliation: NFPA 1900 Wildland TG

Street Address:

City:

State:

Zip:

Submission Date: Mon Aug 25 14:42:00 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-352-NFPA 1900-2026](#)

Statement: Moving the annex material to the correct location with the addition of the new HVAC requirement to the standard.

**Public Input No. 236-NFPA 1900-2025 [Section No. D.2.8]****D.2.8**

Instruction and demonstrations for designated fire department personnel are essential to ensure that the purchaser and user are aware of and instructed in the proper operation, care, and maintenance of the apparatus acquired. The instruction and demonstrations should provide the initial instruction on the new apparatus. This is typically delivered by a qualified representative of the contractor in the user's community. The specifications should clearly identify the arrangement for furnishing the instruction, including where it is to be provided, its duration, and what instructional aids, such as ~~video tapes or~~ printed manuals, electronic documentation, and videos are to be furnished.

Statement of Problem and Substantiation for Public Input

Documentation can now be presented in a wider variety of formats.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Thu May 22 16:35:44 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-208-NFPA 1900-2026

Statement: Documentation can now be presented in a wider variety of formats.



Public Input No. 237-NFPA 1900-2025 [Section No. D.2.12]

D.2.12

The form in Figure D.2.12 is a good way to document the specifications. Completion of the form should assist the purchaser in developing the specifications and provide the information required in the various sections of this document. The purchaser should fill in ~~only~~ the required sections, which are marked with an asterisk (*) and only those other sections where there are specific customer requirements that exceed or are in addition to the requirements of the standard. All the items of information marked with an asterisk (*) generally are required for the manufacturer to bid on and build the apparatus. The other items are details about which the purchaser might want to specify special requirements. In many cases, the purchaser should specify additional details only if the purchaser is experienced in that area and has specific, unusual requirements. Consult with manufacturers or others with experience in apparatus architecture and specifications if necessary. Care must be taken not to specify incompatible requirements, such as a 3000 gal (11,400 L) water tank, which weighs approximately 30,000 lb (13,600 kg), and a 14,000 lb (6360 kg) GVWR chassis. When more restrictive details are specified, fewer manufacturers will be able to bid, and the cost of the apparatus might be higher.

Figure D.2.12 A Sample Apparatus Purchasing Specification Form.

IN FIGURE D.2.12 P. 8 OF 25, ADD AT THE BOTTOM: Is A/C required in driving and crew areas?

DELETE THE SECOND LINE OF THE TILT OR TELESCOPING STEERING COLUMN QUESTION TO MAKE SPACE ON THE PAGE.

ON P 6 OF 14 SECOND LINE "specificc" SHOULD BE "specific"

ON P 14 OF 25 PUMP PANEL AND GAUGE PANEL "maaterial" SHOULD BE 'material'"

ON P 17 OF 25 THE UNDERLINE FOR WRITING ON AFTER "Type" IS MISSING

APPARATUS PURCHASING SPECIFICATION FORM	
Procurement Issues	
*Date of bid opening: _____	
*Purchaser's name and address: _____	
*Contact name and telephone number: _____	
*Sealed bid envelope information, address, and identification marking: _____	
*The bidder is to honor the bid price for _____ days.	
*If an interim inspection trip(s) to the assembly plant is to be provided, indicate: number of trips _____ number of participants _____ who will pay expenses _____	
How many service and operation manuals are to be provided? _____	
*Where is the delivery of the apparatus to occur? _____	
*Where and when is the acceptance to occur? _____	
*The operation and service instruction and demonstration are to be conducted at _____ for _____ persons for _____ days.	
Specify the details of any special payment plan or schedule required: _____	
Is an approval drawing required? ☐ Yes ☐ No	
Is a bid bond required? ☐ Yes ☐ No What percent of the bid price? _____	
Is a performance bond required? ☐ Yes ☐ No What percent of the bid price? _____	
If an extended warranty on specific components is required, indicate which components and the length of the warranty: _____	
Is a warranty bond required? ☐ Yes ☐ No In what amount? _____	
*Required information	
© 2023 National Fire Protection Association	
NFPA 1900 (p. 1 of 25)	

General Requirements — CHAPTER 7

Special design features required on this apparatus:

What are the maximum allowable dimensions of the apparatus?
Overall height in inches (millimeters): (measured at the highest projection)
Overall length in inches (millimeters): (measured at the front and rearmost projections)
Wheelbase in inches (millimeters): (measured from the center of the front axle to the center of the rear axle)
Width in inches (millimeters): (measured at the outside of the mirrors)
Gross vehicle weight in pounds (kilograms):
Maximum weight on the front axle in pounds (kilograms):
Maximum weight on the rear axle in pounds (kilograms):
What is the maximum wall-to-wall turning radius allowable? ft (m)
Maximum elevation at which the apparatus will operate ft (m) if over 2000 ft (600 m):
Maximum stationary grade that apparatus will operate on if over 6 percent (structural) or 10 percent (wildland):
Maximum grade that wildland fire apparatus must be able to maneuver on if more than across a 20 percent grade and up and down a 20 percent grade:
Specify the minimum ambient air temperature in which the apparatus is to operate: °F (°C)
Specify the maximum ambient air temperature in which the apparatus is to operate: °F (°C)
Specify the apparatus road performance if it is to exceed the minimum specified in this standard:

*Specify the maximum road speed required:
*Specify the number of crew riding positions required:

Hose Thread Size Information

TPI x OD or size and type (e.g., 2½ in. NH or 4 in. storz)

1 in. = 1½ in. =

2 in. = 2½ in. =

3 in. = 3½ in. =

4 in. = 4½ in. =

5 in. = 6 in. =

Hydrant =

* Required information

© 2023 National Fire Protection Association NFPA 1900 (p. 2 of 25)

Onboard Data Management and Communications

Manufacturer supply and install

Purchaser supply manufacturer install

Purchaser supply and install

Nothing needed

Radio equipment: ☐ ☐ ☐ ☐

Computer equipment: ☐ ☐ ☐ ☐

Traffic preemption: ☐ ☐ ☐ ☐

Vehicle data recorder: ☐ ☐ ☐ ☐

V2X communications: ☐ ☐ ☐ ☐

Digital Alert Warning System: ☐ ☐ ☐ ☐

Provide details for each unless nothing needed, or attach information:

Testing and Acceptance

If independent certification of tests is required for the pump system, aerial device, line voltage power source, or other systems, what independent testing organization is to certify the tests?

Is anyone to witness the manufacturer's predelivery tests?

Where are the road tests to be conducted?

*What tests will the contractor be required to perform on delivery?

Requirements by Type — Chapter 8

*This apparatus is to be used as a(n):
☐ Pumper
☐ Initial attack apparatus
☐ Mobile water supply apparatus
☐ Aerial fire apparatus
☐ Quint fire apparatus
☐ Special service apparatus
☐ Mobile foam fire apparatus
☐ Wildland fire suppression apparatus
☐ Wildland mobile water supply apparatus
☐ Wildland crew carrier apparatus
☐ Other
* What functions or services is this apparatus to perform?

* Required information

© 2023 National Fire Protection Association NFPA 1900 (p. 3 of 25)

556 of 605

5/5/2026, 9:08 AM

***Section Hose**

*Is section hose required? ☐ Yes ☐ No

*Soft or hard: _____

*Size and length: _____

*Connection type and size: _____

*Supplied by ☐ contractor ☐ purchasing authority

Mounting arrangement, bracket style, and location: _____

***Ground Ladders to Be Carried**

Number	Length	Type	Mounting Location and Bracket Type

Indicate if a specific type or make of ladder is desired: _____

*The ground ladders will be supplied by ☐ contractor ☐ purchasing authority (specify make and model): _____

***Breathing Apparatus**

Quantity	Make/Model	Mounting Location

* The breathing apparatus is to be supplied by the ☐ contractor ☐ purchaser.

Special requirements for the breathing apparatus or its mounting, including diameters of SCBA cylinders to be utilized: _____

***Required information**

© 2023 National Fire Protection Association NFPA 1900 (p. 4 of 25)

***Equipment Carried on Apparatus**

*Miscellaneous equipment allowance if it exceeds the standard's minimum weight: _____

*Attach a list of equipment and tools to be supplied by the contractor with the apparatus, stating the item, quantity, where it is to be mounted or carried, the weight of each item, and its dimensions (L x W x D). _____

*Attach a list of equipment and tools to be supplied by the fire department to be carried on the apparatus, stating the item, quantity, where it is to be mounted or carried, contractor's responsibility for mounting, the weight of each item, and its dimensions (L x W x D). (Provide completed form FAMA TC018, see Annex E) _____

*Attach a list of equipment and tools that might be carried on the apparatus in the future, stating the item, quantity, the desired mounting location or compartment where it is likely to be carried, the weight of each item, and its dimensions item, and its dimensions (L x W x D). (Provide completed form FAMA TC018, see Annex E) _____

*Attach a list of fixed and permanent components required on the apparatus, showing the item, quantity, weight (L x W x D), as well as the location where it is to be carried. _____

If additional compartment space is required in addition to what is necessary to store the equipment on the attached four lists, indicate space requirements. _____

Chassis and Vehicle Components — Chapter 9

Desired chassis make and model or style: _____

Type of propulsion engine: _____

Specify any special lubrication system requirements (auto lube): _____

Is an automatic throttle control device required? ☐ Yes ☐ No

Is a manual emergency engine shutdown required? ☐ Yes ☐ No

Type of fuel filters required? _____

Specify the exiting location of the exhaust system: _____

Auxiliary brake system type (engine, transmission, or driveline) and control (hand brake or brake treadle): _____

Specify the brand and model of tires required: _____

Indicate whether steel or aluminum wheels are required: _____

Are rear fender liners required? ☐ Yes ☐ No

Are automatic tire chains required? ☐ Yes ☐ No

Should the structural apparatus be designed to operate "off paved roads?" ☐ Yes ☐ No

Specify if an increased underbody clearance is required: _____

Specify if a greater angle of approach is required: _____

***Required information**

© 2023 National Fire Protection Association NFPA 1900 (p. 5 of 25)

Specify if a greater angle of departure is required: _____

Specify if a specific ramp breakerover angle is required for wildland fire apparatus: _____

Is a drive axle traction control or no-spin differential required? ☐ Yes ☐ No

 If yes, what design or style? _____

Specify if rear wheel steering is required: _____

Specify if a special suspension system is required: _____

Specify the fuel tank capacity required: _____ gal (L)

Must tow hooks be accessible without opening compartment doors? ☐ Yes ☐ No

Special cab trim features: _____

Low Voltage Electrical Systems and Warning Devices — Chapter 10

* Indicate whether a low voltage battery charger, conditioner, or a polarized receptacle is to be provided: _____

If a built-in low voltage battery charger or conditioner is provided, indicate the required charging rate. _____

Specify the location of the receptacle for the low voltage battery charger or conditioner: _____

Is a “disconnect on” pilot light in the cab or on the outside of the vehicle required? ☐ Yes ☐ No

 Where? _____

Specify any electrical loads beyond those defined in the standard that are to be part of the minimum continuous electrical load: _____

If a load management system is required, specify the sequence of control (shutdown): _____

Is certification of the testing of the low-voltage electrical system by an independent third-party certification organization required? ☐ Yes ☐ No

*** Required information**

© 2023 National Fire Protection Association NFPA 1900 (p. 6 of 25)

For wildland fire apparatus, is the vehicle to be equipped to call for or block right-of-way on a public highway?
☐ Yes ☐ No If yes, specify warning light and siren information. _____

Warning Light Information

Location	Make and Model	Color
Upper level, forward facing		
Upper level, side-facing, front		
Upper level, side-facing, midship		
Upper level, side-facing, rear		
Upper level, rear facing		
Lower level, forward facing		
Lower level, side-facing, front		
Lower level, side-facing, midship		
Lower level, side-facing, rear		
Lower level, rear facing		

Describe any provisions for reduction of glare and distraction when blocking the right-of-way: _____

Specify any special emergency lighting or warning features or equipment that is required: _____

Specify the make, model, location, and controls of the siren: _____

Are air horns required? ☐ Yes ☐ No If yes, specify the make preferred, type of control, and their location: _____

Are cab hand lights or mounted adjustable spotlights required? ☐ Yes ☐ No

For wildland fire apparatus, specify all work lighting required:

 Ground lighting: _____

 Hose bed lighting: _____

 Step and surface lighting: _____

 Cab interior lighting: _____

 Compartment lighting: _____

Specify if additional work lighting is required: _____

Specify if lateral hose bed (i.e., crosslay) lighting is required: ☐ Yes ☐ No

Specify if additional driving or crew compartment lighting is required: _____

Are provisions needed for rechargeable equipment? ☐ Yes ☐ No

 If yes, make and model of equipment: _____

Make and model of backup camera system: _____

Describe any scene lighting required: _____

*** Required information**

© 2023 National Fire Protection Association NFPA 1900 (p. 7 of 25)

Driving and Crew Areas — Chapter 11

Specify any special seating requirements or arrangements for the driver: _____

Specify any special seating requirements or arrangements for the officer: _____

Specify any special seating requirements or arrangements for the crew: _____

Specify which seats in the crew compartment will be primary and which will be secondary:

Front driver and officer side	☐ Primary	☐ Secondary	☐ N/A
Rear-facing outboard driver side	☐ Primary	☐ Secondary	☐ N/A
Rear-facing inboard driver side	☐ Primary	☐ Secondary	☐ N/A
Rear-facing center	☐ Primary	☐ Secondary	☐ N/A
Rear-facing inboard officer side	☐ Primary	☐ Secondary	☐ N/A
Rear-facing outboard officer side	☐ Primary	☐ Secondary	☐ N/A
Forward-facing outboard driver side	☐ Primary	☐ Secondary	☐ N/A
Forward-facing inboard driver side	☐ Primary	☐ Secondary	☐ N/A
Forward-facing center	☐ Primary	☐ Secondary	☐ N/A
Forward-facing inboard officer side	☐ Primary	☐ Secondary	☐ N/A
Forward-facing outboard officer side	☐ Primary	☐ Secondary	☐ N/A

Helmets will be stored:

☐ In the driving/crew compartment in holders

☐ In the driving/crew compartment in compartments

☐ In body compartments

Is an intercom system required? ☐ Yes ☐ No

Make, model, or type: _____

Locations: _____

Radio interface: _____

Special requirements: _____

Specify any special requirements for carrying tools or equipment within the driving or crew compartment: _____

Specify any special requirements for carrying EMS equipment within the driving or crew compartment: _____

Specify any special step or handrail arrangements required: _____

If a tiller-steered apparatus is to be provided, specify the type of communication system required between the tiller operator and the apparatus driver: _____

Is a tilt or telescoping steering column required? _____

Specify any extra driving compartment instrument panel features required: _____

Specify the type and style of driving compartment mirrors: _____

*** Required information**

© 2023 National Fire Protection Association NFPA 1900 (p. 8 of 25)

Body, Compartments, and Equipment Mounting — Chapter 12

Body material: _____

Compartment capacity required: _____ ft³ (m³)

Specify any special compartment features and finish required: _____

Specify if a special compartment floor material or covering is required: _____

Specify the type and style of compartment doors required: _____

Specify the style of door latches, locks, or stays required: _____

Specify the type of compartment lighting required: _____

Type of body tread plate material required: _____

Type of step and platform material required: _____

* Color of apparatus: _____

Paint number and manufacturer, if known: _____

Striping, decoration, and lettering required: _____

List any areas not to be painted: _____

Miscellaneous body trim: _____

Is rustproof treatment required? ☐ Yes ☐ No

Provide details of locations to be treated: _____

***Hose to Be Carried for Preconnected Lines**

Length	Size	Location	Bed or Reel

*** Required information**

© 2023 National Fire Protection Association NFPA 1900 (p. 9 of 25)

Length	Size	Location	Bed or Reel

If a hose bed cover(s) is desired, specify type: _____

Is the firefighting system to be a slip-on unit? ☐ Yes ☐ No

Specify the lifting arrangement required: _____

Specify the anchoring system required: _____

Structural Fire Pump — Chapter 13

* Is the fire pump required? ☐ Yes ☐ No

* Pump rated capacity: _____ gpm (l/min)

* Number of pump stages required: _____

* Pump type: _____

Pump location: _____

How is the pump to be driven? _____

Type of engine to drive pump if other than the chassis propulsion engine: _____

Pump testing authority: _____

If pump-and-roll is required, specify:

Flow _____ gpm (l/min) at _____ psi (kPa)

Vehicle speed _____ mph (kmph)

Type of primer system: _____

Special pump performance requirements:

 If altitude over 2000 ft (600 m), specify altitude: _____

 If lift over 10 ft (3 m), specify lift: _____

 If through more than 20 ft (6 m) of suction hose, specify length: _____

Do local water conditions require special materials for pump construction and piping? _____

*** Required information**

© 2023 National Fire Protection Association NFPA 1900 (p. 10 of 25)

Pump panel and gauge panel material:

Type of intake and discharge valve controls desired: _____

Specify the size of the master gauges: _____

Specify any special requirements for individual line pressure gauges: _____

Are individual line flow meters required? ☐ Yes ☐ No

 If yes, are there any special requirements? _____

Are any special gauges, instruments, or other features required at the pump operator's panel? _____

Should the engine speed control at the pump operator's panel be enabled when the apparatus is parked but not in pump mode? ☐ Yes ☐ No

Are special pump and piping features required to deal with extremely low temperatures? _____

Is the intake relief system to be adjustable at the panel? ☐ Yes ☐ No

 If no, where: _____

Is a pump pressure governor or a relief valve to be supplied? _____

*** Pump Intake Connections**

Size	Type of Connection	Location	Valved (Y/N)	Control Location

Are special adapters required on the pump intakes? _____

* Will a valve, siamese, or adapter be carried on any intakes? ☐ Yes ☐ No

 If yes, specify where, make, and model: _____

*** Required information where equipment/system is to be provided**

© 2023 National Fire Protection Association NFPA 1900 (p. 11 of 25)

***Pump Discharge Outlets Without Preconnected Hose Lines**

List the 2½ in. (65 mm) or larger discharge outlets required:

Quantity	Size	Type of Connection	Location	Flow Requirement

***Pump Discharge Outlets Without Preconnected Hose Lines**

Quantity	Size	Type of Connection	Location	Flow Requirement

*Is a deck gun required? ☐ Yes ☐ No
Type: _____
Mounting location: _____
Piping size and arrangement: _____

Is pump panel color coding required? ☐ Yes ☐ No
Specify details: _____

Is a booster reel required? ☐ Yes ☐ No
How many reels? _____
Location: _____
Hose size and length: _____
Reel rewind type: _____
Piping to reel: _____

***Required information where equipment/system is to be provided**

NFPA 1900 (p. 12 of 25)

Auxiliary Pump — Chapter 14

*Is an auxiliary pump required? ☐ Yes ☐ No
Type of auxiliary pump operations: _____

Auxiliary pump performance: _____

Type of auxiliary pump: _____

How is the auxiliary pump to be driven: _____

Auxiliary pump location: _____

*Is the auxiliary pump to be connected to the fire pump? ☐ Yes ☐ No
Do local water conditions require special materials for pump construction and piping? _____

***Auxiliary Pump Intake Connections**

Size	Type of Connection	Location	Valved (Y/N)

***Auxiliary Pump Discharge Outlet Connections**

Quantity	Size	Type of Connection	Location	Flow Requirement

Where are the auxiliary pump controls to be located? _____

*Is a booster reel required? ☐ Yes ☐ No
How many reels? _____
Location: _____
Hose size and length: _____
Reel rewind type: _____
Piping to reel: _____

***Required information where equipment/system is to be provided**

NFPA 1900 (p.13 of 25)

5/5/2026, 9:08 AM

Pump Engine — Chapter 15

Is a separate engine required to drive the pump? ☐ Yes ☐ No

Specify the desired location of the engine: _____

Type of engine: _____

Is the engine to draw its fuel from the vehicle's fuel system? ☐ Yes ☐ No

Is an electric fuel pump or repriming pump required? ☐ Yes ☐ No

Specify any special lubrication system requirements: _____

Specify any special cooling system requirements: _____

Type of coolant required: _____

Is an automatic throttle control device required? ☐ Yes ☐ No

Is a manual emergency engine shutdown required? ☐ Yes ☐ No

Type of fuel filters required: _____

Type of air filters required: _____

Specify the exiting location of the exhaust system: _____

Ultra-High Pressure Fire Pump — Chapter 16

*Is an ultra-high pressure fire pump required? ☐ Yes ☐ No

*What is the rated flow capacity and rated discharge pressure required? _____ gpm (L/min) at _____ psi (kPa)

*Is drafting capability required? ☐ Yes ☐ No Type of primer system: _____

*Pump type: _____

***Ultra-High Pressure Hose Reel Information**

Location	Hose Length	Discharge Rate	Rewind Type

Water Tank — Chapter 17

*Is a water tank required? ☐ Yes ☐ No

*Water tank capacity: _____

Tank construction material: _____

Is an internal coating required? ☐ Yes ☐ No

***Required information where equipment/system is to be provided**

© 2023 National Fire Protection Association NFPA 1900 (p.16 of 25)

Is a removable tank lid required? ☐ Yes ☐ No

Type of tank level indicator(s): _____

Location of additional tank level indicator(s): _____

Tank to pump flow rate required: _____

Pump to tank fill rate required: _____

Is a tank dump valve required? ☐ Yes ☐ No

Style of valve: _____

Size: _____

Performance required: _____

Location: _____

Type of connector: _____

Is a direct tank fill required? ☐ Yes ☐ No

Style of valve: _____

Size: _____

Performance required: _____

Location: _____

Type of connector: _____

Foam System — Chapter 18

*Is a foam system required? ☐ Yes ☐ No

*Type of foam system required: _____

*Type of foam(s) to be used including brand and viscosity: _____

*Range of waterflows and pressures for system operation: _____

*Foam concentrate storage capacity: _____ gal (L)

***Discharge Outlets to Be Used with Foam and Their Performance**

Discharge Location	Required Flow	Proportioning Rate	Hose Length	Hose Diameter

*Is an outside foam system inlet or pickup required? ☐ Yes ☐ No

Type: _____

***Required information where equipment/system is to be provided**

© 2023 National Fire Protection Association NFPA 1900 (p.17 of 25)

Is a hose connection required at the ladder tip? ☐ Yes ☐ No
If yes, describe size and arrangement: _____

Is a three-lever, two-lever, or single-lever control system required? _____

Is a secondary operator's position required (tip controls)? ☐ Yes ☐ No
List any aerial ladder equipment or features required: _____

Elevating Platform

*Rated vertical height required: _____ ft (m)
*Rated horizontal reach required: _____ ft (m)
*Capacity rating (tip load) required: _____ lb (kg) (750 lb (340 kg) minimum)
Is the elevating platform to be equipped with a ladder that provides continuous access between the platform and the turntable? ☐ Yes ☐ No
If yes, specify details: _____

Is a breathing air system to be supplied to the platform? ☐ Yes ☐ No
Number of outlets? _____

Is a breathing air system to be supplied to the lower control station? ☐ Yes ☐ No
If a breathing air system is to be supplied, are there any special requirements, makes, or models for the components of the breathing air system desired? _____

Specify the number of monitors to be supplied on the platform: _____
What make and model of monitor are required [minimum flow 1000 gpm (4000 L/min) at 100 psi (700 kPa)]? _____

What make and model of nozzle are required? _____

Is a hose connection to be provided on the platform from the water delivery system? ☐ Yes ☐ No
If yes, describe number, size, and arrangement: _____

Are any special arrangements to be provided for hose lines from the platform water delivery system? _____

***Required information where equipment/system is to be provided**

© 2023 National Fire Protection Association NFFA 1900 (p. 20 of 25)

Indicate the external inlet arrangement required, including the size, type, and number of inlets and the valving arrangement: _____

Is a three-lever, two-lever, or single-lever control system required? _____

List any elevating platform equipment or features required: _____

Water Tower

Is the water tower to be telescoping, articulating, or both? _____

*Rated vertical height required: _____ ft (m)
*Rated horizontal reach required: _____ ft (m)
Waterway capacity required if in excess of 1000 gpm (4000 L/min): _____

What make and model of monitor are required [minimum flow 1000 gpm (4000 L/min) at 100 psi (700 kPa)]? _____

What make and model of nozzle are required? _____

Where are the monitor and nozzle controls to be located? _____

Indicate the external inlet arrangement desired, including the size, type, and number of inlets and the valving arrangement: _____

Is a three-lever, two-lever, or single-lever control system required? _____

List any water tower equipment or features required: _____

***Required information where equipment/system is to be provided**

© 2023 National Fire Protection Association NFFA 1900 (p. 21 of 25)

Line Voltage Electrical System — Chapter 21

*Is a line voltage electrical system required? ☐ Yes ☐ No

*Continuous rated wattage of power source:

*Voltage of power source:

*Type of power source:

☐ Portable generator

☐ Hydraulically driven generator

☐ Direct drive generator

☐ Auxiliary engine driven generator

☐ Belt driven generator or alternator

☐ Derived from apparatus low voltage power supply system

☐ Other:

Make, model, or other details of power source:

Location of power source:

Mounting of power source:

Panelboard location:

*Receptacle Information

Quantity	Amps/Volts	Style of Receptacle	Location

*Circuit Remote Control Information

Controlled Circuit	Switch Location

* Required information where equipment/system is to be provided

© 2023 National Fire Protection Association

NFPA 1900 (p. 22 of 25)

*120/240 Volt Lighting Information

Style/Make	Location	Voltage/Wattage/Bulb	Type Mounting

*Cord Reel Information

	Reel #	Reel #	Reel #	Reel #
Mounting Location				
Amperage				
Voltage				
Length of cord in feet				
Receptacle style				
Distribution box				
Rewind system				

*Is a power-operated light mast required? ☐ Yes ☐ No

If yes, specify the make and model required:

List any equipment to be powered from a shore power inlet:

List any equipment to be powered from both a shore power inlet and an onboard power source through a transfer switch:

Command and Communications — Chapter 22

*Is a separate command area required? ☐ Yes ☐ No

*Is the area to be enclosed by walls and doors?

*Size of the area: ft (m) x ft (m) or ft² (m²)

*Number of persons to be seated and able to work in the area:

Is special lighting required? ☐ Yes ☐ No

Describe:

List the make and model for each piece of communication equipment to be in the command and communications area and whether the contractor or the purchaser is to provide and install the equipment:

* Required information where equipment/system is to be provided

© 2023 National Fire Protection Association

NFPA 1900 (p. 23 of 25)

566 of 605

5/5/2026, 9:08 AM

<p>List the make and model for each piece of computer equipment to be in the command and communications area and whether the contractor or the purchaser is to provide and install the equipment: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>List the make and model for each other piece of equipment to be in the command and communications area and whether the contractor or the purchaser is to provide and install the equipment: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>*Is external video equipment to be used on the apparatus? ☐ Yes ☐ No</p> <p>*If yes, where is it to be mounted? _____</p> <p>_____</p> <p>_____</p> <p style="text-align: center;">Air Systems — Chapter 23</p> <p>*Is an air system required? ☐ Yes ☐ No</p> <p>*What is the function of the air system?</p> <p>☐ Refill SCBA cylinders</p> <p>☐ Supply remote breathing air</p> <p>☐ Supply high pressure breathing air hose</p> <p>☐ Supply utility air</p> <p>*Is a cascade system to be supplied? ☐ Yes ☐ No</p> <p>*How many SCBA cylinders are to be filled? _____</p> <p>*What is the size of the cylinders to be filled? _____ ft³ (m³)</p> <p>*To what pressure are the cylinders to be filled? _____ psi (kPa)</p> <p>*Is a compressor required? ☐ Yes ☐ No</p> <p>*If yes, what free air delivery (FAD) rating is required? _____ ft³ (m³) at _____ psi (kPa)</p> <p>*Is a SCBA refill station required? ☐ Yes ☐ No</p> <p>If yes, what is the location of the refill station? _____</p> <p>Number of refill lines: _____</p> <p>*For each air hose required, specify the following:</p> <p>(a) Discharge flow required in CFM _____</p> <p>(b) Discharge pressure required in psi _____</p> <p>(c) Whether breathing air or utility air is to be supplied _____</p> <p>(d) Length of hose in feet _____</p> <p>(e) Whether hose is to be stored on a reel _____</p> <p>(f) Mounting location of reel, if applicable _____</p> <p>(g) Fitting or device at the end of the hose _____</p> <p>What ambient temperatures will be expected if beyond 32°F (0°C) to 110°F (43°C)? _____</p> <p style="text-align: center;">* Required information where equipment/system is to be provided</p> <p style="text-align: left;"><small>© 2023 National Fire Protection Association</small></p> <p style="text-align: right;"><small>NFPA 1900 (p. 24 of 25)</small></p>
<p style="text-align: center;">Winches — Chapter 24</p> <p>*Is a winch required? ☐ Yes ☐ No</p> <p>*What is the single line pull rating required? _____</p> <p>What is the wire rope length required? _____</p> <p>Is the power source for the winch to be electric or hydraulic? _____</p> <p>Specify the winch location(s): _____</p> <p>Type of control required: _____</p> <p>Location of control: _____</p> <p style="text-align: center;">Trailers — Chapter 25</p> <p>*Classification of trailer:</p> <p>☐ Type I (remain connected)</p> <p>☐ Type II (operate at scene with independent power)</p> <p>☐ Type III (transport only)</p> <p>*What will the purpose/function of the trailer be? _____</p> <p>*What will the trailer carry? List equipment or total weight: _____</p> <p>_____</p> <p>*Tow hitch type and size preferred/required: _____</p> <p>Other requirements should be specified in the appropriate sections above.</p> <p style="text-align: center;">Vehicle Protection Systems — Chapter 26</p> <p>Are brush rails required? ☐ Yes ☐ No</p> <p>If yes, define specific requirements: _____</p> <p>_____</p> <p>Is a grill guard required? ☐ Yes ☐ No</p> <p>If yes, define specific requirements: _____</p> <p>_____</p> <p>Are skid plates required? ☐ Yes ☐ No</p> <p>If yes, define specific requirements: _____</p> <p>_____</p> <p>What components are to be protected? _____</p> <p>_____</p> <p style="text-align: center;">Wildland Fire Crew Carrier Apparatus — Chapter 27</p> <p>Number of seating positions in crew compartment: _____</p> <p>Describe seating arrangements in crew compartment: _____</p> <p>_____</p> <p>Describe access doors to crew compartment: _____</p> <p>_____</p> <p style="text-align: center;">* Required information where equipment/system is to be provided</p> <p style="text-align: left;"><small>© 2023 National Fire Protection Association</small></p> <p style="text-align: right;"><small>NFPA 1900 (p. 25 of 25)</small></p>

Statement of Problem and Substantiation for Public Input

The first "only" was misplaced.

Several typos still remain in the figure.

Changes to Figure D.2.12 may be required if changes are made to the rest of the document that require changes.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:**Submittal Date:** Thu May 22 17:06:55 EDT 2025**Committee:** FDA-AAA**Committee Statement****Resolution:** [FR-412-NFPA 1900-2026](#)**Statement:** In Figure D.2.12, the following changes need to be made:

IN FIGURE D.2.12 P. 8 OF 25, ADD AT THE BOTTOM: Is A/C required in driving and crew areas?

DELETE THE SECOND LINE OF THE TILT OR TELESCOPING STEERING COLUMN QUESTION TO MAKE SPACE ON THE PAGE.

ON P 17 OF 25 THE UNDERLINE FOR WRITING ON AFTER "Type" IS MISSING

While the print version did contain some typographical errors, they did not appear in Terra or the online version of the document.



Public Input No. 238-NFPA 1900-2025 [Section No. D.5.1]

D.5.1

When the apparatus is ready for delivery and acceptance, the purchaser has a responsibility to check the completed apparatus carefully against the specifications, the contract, and the requirements of this document to ensure that all that was required is being delivered. This includes witnessing any required acceptance tests and verifying that the gross vehicle weight and the axle weight distribution are within the chassis and axle ratings. The delivery inspection form shown in Figure D.5.1(a) and the as-delivered weight analysis calculation worksheet shown in Figure D.5.1(b) can be useful in the inspection process. The weight distribution of in-service fire apparatus is critical to the safe operation of the apparatus. Figure D.5.1(b) and Table D.5.1 can help evaluate weight issues to confirm that the apparatus weight and distribution are within the chassis manufacturer's safe limits.

Items on the checklist in Figure D.5.1(a) are some key safety items or items frequently overlooked. The acceptance inspection should include all details of the contract specifications and this standard, whether included on these lists or not.

Table D.5.1 Typical Hose Weight Data

<u>Nominal Hose Diameter</u>		:	<u>Weight per Unit Length</u>	
<u>in.</u>	<u>mm</u>		<u>lb/ft</u>	<u>kg/m</u>
1	25	-	0.30	0.41
1½	38	-	0.38	0.53
1¾	44	-	0.43	0.59
2	52	-	0.50	0.69
2½	65	-	0.70	0.97
3	75	-	0.80	1.10
4	100	-	0.85	1.18
5	125	-	1.10	1.52
6	150	-	1.35	1.87

The instructions for completing the as-delivered weight analysis calculation worksheet in Figure D.5.1(b) are as follows:

- (1) In row (a), fill in the vehicle weights from a certified scale, measured under the following conditions:
 - (2) All manufacturing work completed
 - (3) Water, fuel, and foam tanks full
 - (4) Ground ladders stored on the vehicle
- (5) In rows (b) through (k), calculate the expected hose load by multiplying the length of hose by the standard values for weight per unit length and enter the result in column 7. Use the values in Table D.5.1 or obtain specific values for the brand of hose being used.
- (6) In row (l), multiply the number of seat belt–equipped seating positions by the NFPA allowance of 250 lb (113 kg) per person and enter the result in column 7.
- (7) In row (m), enter the miscellaneous equipment allowance from 9.1.2(7) in column 7.
- (8) Divide the hose, personnel, and equipment weights in column 7 in rows (b) through (m) between the front and rear axles according to the indicated percentages (or, as appropriate, from a detailed weight analysis).
- (9) In row (n), enter the sum of the values from rows (a) through (m) for each of columns 7 through 10.
- (10) In row (o), record the gross vehicle and gross axle weight ratings from the manufacturer's data label affixed inside the driving compartment.
- (11) Subtract the values in row (n) from row (o) and enter the difference in row (p). This is the expected reserve axle capacity of the in-service vehicle. If this number is negative, consult the vehicle manufacturer.

Figure D.5.1(a) Delivery Inspection Form.

FIRE APPARATUS DELIVERY INSPECTION FORM					
NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
7.10.1	Personnel protection	Guards or shields are provided around hot, moving, or rotating parts.	☐	☐	☐
7.10.2	Personnel protection	Isolation or insulation is provided to protect personnel from electrical shock.	☐	☐	☐
7.11.1	Controls and gauges	All controls, switches, instructions, gauges, and instruments needed for operation are illuminated.	☐	☐	☐
7.18.5	Brakes	Stopping distance measurement provided.	☐	☐	☐
7.18.6					
7.21.1	Documentation and manuals	Required manufacturer's data provided.	☐	☐	☐
7.21.2	Documentation and manuals	Chassis operation and maintenance manual provided.	☐	☐	☐
7.21.2	Documentation and manuals	Pump operation and maintenance manual provided.	☐	☐	☐
7.21.2	Documentation and manuals	Aerial device operation and maintenance manual provided.	☐	☐	☐
7.21.2	Documentation and manuals	Aerial device load chart provided.	☐	☐	☐
7.21.2.3(4)	Documentation and manuals	Parts replacement information provided.	☐	☐	☐
7.21.2.3(6)	Documentation and manuals	Wiring diagram provided.	☐	☐	☐
7.21.2.3(7)	Documentation and manuals	Lubrication chart provided.	☐	☐	☐
7.21.2.4	Documentation and manuals	Major component manufacturers' manuals provided.	☐	☐	☐
7.21.2.5	Documentation and manuals	Apparatus manuals accessible on manufacturer's website.	☐	☐	☐
7.21.2.6	Documentation and manuals	Apparatus provides storage for, or access to, manuals.	☐	☐	☐
7.21.2.7	Documentation and manuals	Manual lists fluids.	☐	☐	☐
9.1.4	Documentation and manuals	Federal Motor Vehicle Safety weight certification label.	☐	☐	☐
9.1.5.1	Information label	Label indicating the height, length, and GVWR of the vehicle is visible to the driver.	☐	☐	☐
9.3.1.4	Brakes	Auxiliary braking system functions (required above 36,000 lb (16,000 kg) GVWR).	☐	☐	☐
9.3.2.3.2	Ground clearance, wildland fire apparatus	Ground clearance meets requirements in standard.	☐	☐	☐
9.3.2.4	Ramp breakover angle, wildland fire apparatus	Ramp breakover angle meets requirements (if specified).	☐	☐	☐
9.3.2.4.1	Approach angle, structural fire apparatus	Angle of approach at least 8 degrees (vertical / horizontal greater than 0.1405).	☐	☐	☐
9.3.2.4.1	Departure angle, structural fire apparatus	Angle of departure at least 8 degrees (vertical / horizontal greater than 0.1405).	☐	☐	☐
9.3.2.4.2	Approach angle, wildland fire apparatus	Angle of approach at least 20 degrees (vertical / horizontal greater than 0.3640).	☐	☐	☐
9.3.2.4.2	Departure angle, wildland fire apparatus	Angle of departure at least 20 degrees (vertical / horizontal greater than 0.3640).	☐	☐	☐
9.3.4	Engine and fuel tank	Label is provided at the fuel fill to indicate type of fuel.	☐	☐	☐
10.7.13.1	Warning lights — responding	No yellow lights in Zone A in the "calling for right-of-way" mode.	☐	☐	☐
10.7.13.1	Warning lights — responding	No white lights in Zone C in the "calling for right-of-way" mode.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 1 of 4)		

NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
10.7.13.1	Warning lights — blocking	No white lights in any zone in the "blocking right-of-way" mode.	☐	☐	☐
10.7.16.2.1.1(B)	Warning lights	Compliance documentation provided.	☐	☐	☐
10.8.1.1	Audible warning	Sirens certified to SAE J1849.	☐	☐	☐
10.8.2	Driving and crew compartment occupant protection	Audible warning devices and sirens are mounted low and in front of vehicle.	☐	☐	☐
10.9.1.1	Ground lighting, structural fire apparatus	Rear of apparatus is illuminated for working.	☐	☐	☐
10.9.1.2	Ground lighting, structural fire apparatus	Ground lighting is provided at areas where personnel will be stepping or climbing.	☐	☐	☐
10.9.1.3	Ground lighting, structural fire apparatus	Ground lighting illuminates automatically with the cab doors.	☐	☐	☐
10.9.2	Work lighting, structural fire apparatus	Hose bed is illuminated for working.	☐	☐	☐
10.9.5.1	Pump compartment, structural fire apparatus	Pump compartment is illuminated.	☐	☐	☐
10.9.5.2	Pump compartment, structural fire apparatus	Priming lubricant or reservoir area is illuminated.	☐	☐	☐
10.10.1(1)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and passenger or compartment doors are not closed.	☐	☐	☐
10.10.1(2)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and a ladder or equipment rack is not stowed.	☐	☐	☐
10.10.1(3)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and stabilizers are not stowed.	☐	☐	☐
10.10.1(4)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and a powered light tower is not stowed.	☐	☐	☐
10.10.1(5)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and other permanently attached device is extended or deployed.	☐	☐	☐
10.13.3.2	Electrical, low voltage	Reserve capacity test documentation provided.	☐	☐	☐
10.13.3.3	Electrical, low voltage	Alternator performance test at idle documentation provided.	☐	☐	☐
10.13.3.4	Electrical, low voltage	Alternator performance test at full load documentation provided.	☐	☐	☐
10.13.4	Electrical, low voltage	Low voltage alarm test documentation provided.	☐	☐	☐
10.13.5	Electrical, low voltage	Battery charge/conditioner test documentation provided.	☐	☐	☐
10.14	Electrical, low voltage	Load analysis documentation provided.	☐	☐	☐
11.1.1	Cab occupant protection	Driving and crew compartment(s) fully enclosed.	☐	☐	☐
11.1.2	Warning signs	Cab occupant capacity sign provided and visible to the driver.	☐	☐	☐
11.1.3	Driving and crew compartment occupant protection	Seat belts are provided for each driving and crew compartment occupant.	☐	☐	☐
11.1.3.6	Warning signs	A "Seat Belts Required" sign is visible from every seating position.	☐	☐	☐
11.1.8	Driving and crew compartment occupant protection	Headroom at each seating position meets 11.1.8 requirement.	☐	☐	☐
11.1.9	Driving and crew compartment seat arrangement	Primary and secondary seats meet hip and shoulder width requirements in 11.1.9.	☐	☐	☐
11.1.10	Driving and crew compartment occupant protection	Each SCBA bracket is provided with a positive latching mechanical retaining device.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 2 of 4)		

NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
11.1.11.1	Driving and crew compartment occupant protection	All equipment required to be used during a response is fastened.	☐	☐	☐
11.1.11.2	Driving and crew compartment occupant protection	Equipment not required to be used during a response is contained or fastened.	☐	☐	☐
12.3.1	Equipment rack	The rack has a device to lock it in the stowed position.	☐	☐	☐
12.3.2	Equipment rack	The rack has retroreflective devices to make it more visible when deployed.	☐	☐	☐
12.3.4.2	Powered equipment rack	Operator can watch the rack from the controls while it is being deployed.	☐	☐	☐
12.5.1.2	Pump compartment, structural apparatus	Pump compartment access — no dimension less than 18 in. (460 mm).	☐	☐	☐
12.6.1.1	Step height	First step no more than 24 in. (610 mm) and no more than 18 in. (460 mm) between any other step.	☐	☐	☐
12.6.1.2	Step size	All steps have minimum area of 35 in. ² (22,580 mm ²).	☐	☐	☐
12.6.1.2	Step size	All steps have at least 8 in. (200 mm) clearance between leading edge and any obstruction.	☐	☐	☐
12.6.1.2	Step size	All steps can have a 5 in. (125 mm) diameter disk placed on them without overlapping the edge.	☐	☐	☐
12.6.1.3	Platform size	All platforms have at least 8 in. (200 mm) clearance between leading edge and any obstruction.	☐	☐	☐
12.6.1.4	Ladder rungs	All ladder rungs have at least 8 in. (200 mm) between the leading edge and the body or other obstruction.	☐	☐	☐
12.6.2	Step surfaces	Steps, platforms, and ladders sustain 500 lb (227 kg) load	☐	☐	☐
12.6.4.5	Step surfaces	Step surface slip-resistance documentation provided.	☐	☐	☐
12.6.5	Warning signs	Sign warning that riding is prohibited should be visible at rear platform.	☐	☐	☐
12.6.5	Warning signs	Sign warning that riding is prohibited should be visible at cross walkway.	☐	☐	☐
12.7.1	Handrails	Handrails are provided at each entrance to a driving or crew compartment.	☐	☐	☐
12.7.1	Handrails	Handrails are provided at each position where steps or ladders for climbing are provided.	☐	☐	☐
12.7.3	Handrails	All handrails have a diameter between 1 in. and 1½ in. (25 mm and 42 mm).	☐	☐	☐
12.7.3	Handrails	All handrails have 2 in. (50 mm) of clearance to any other surface.	☐	☐	☐
12.7.4	Handrails	All handrails are designed to reduce the possibility of hand slippage.	☐	☐	☐
12.8.3.1	Reflective trim	Side of vehicle has stripe at least 4 in. (100 mm) wide and 50 percent of vehicle length.	☐	☐	☐
12.8.3.1	Reflective trim	Front of vehicle has stripe at least 4 in. (100 mm) wide and 25 percent of the front width.	☐	☐	☐
12.8.3.1	Reflective trim wildland fire apparatus	Rear of vehicle has stripe at least 4 in. (100 mm) wide and 50 percent of the vehicle width.	☐	☐	☐
12.8.3.2	Reflective trim, structural apparatus	Rear of vehicle has alternating yellow and red or high-contrasting colors 6 in. (150 mm) wide in chevron pattern covering at least 50% of rear vertical surfaces.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 3 of 4)		

NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
13.6.1.3	Warning signs	A "serious injury or death" sign is visible.	☐	☐	☐
13.7.9.1	Pump operator's panel	All discharge connections at pump panel are 2½ in. (65 mm) or less.	☐	☐	☐
13.9.2	Pump operator's panel	All gauges, intakes, outlets, and controls are illuminated.	☐	☐	☐
13.11.2	Pump operator's panel	Engine throttle control is between 42 in. (1070 mm) and 72 in. (1830 mm) above operator's standing position for vertical pump panel.	☐	☐	☐
13.11.3	Pump operator's panel	Engine throttle control is between 32 in. (810 mm) and 50 in. (1270 mm) above operator's standing position for horizontal pump panel.	☐	☐	☐
13.12.1.1	Pump operator's panel	The instruments listed in 13.12.1.1 are all located on the pump panel in a group.	☐	☐	☐
13.12.1.4	Pump operator's panel	Visible and audible warnings are provided for low engine oil pressure and high coolant temperature.	☐	☐	☐
13.12.2.1	Pump operator's panel	Master intake and pump discharge gauges no more than 8 in. (200 mm) apart edge to edge.	☐	☐	☐
13.12.2.1.4	Pump operator's panel	Master intake is located to the left of or below the pump discharge gauge.	☐	☐	☐
13.12.2.3	Pump operator's panel	Gauges are labeled as "Pump Intake" and "Pump Discharge."	☐	☐	☐
13.12.3.3	Pump operator's panel	Discharge instrumentation is within 6 in. (150 mm) of the control.	☐	☐	☐
13.13.7	Tank and piping capacity	Tank-to-pump flow documentation provided.	☐	☐	☐
13.13.7	Tank and piping capacity	Water tank-to-pump flow documentation provided.	☐	☐	☐
13.13.10.1	Tank and piping capacity	Hydrostatic piping test documentation provided.	☐	☐	☐
17.6.2	Tank and piping capacity	Tank capacity certification provided.	☐	☐	☐
18.9.4	Documentation and manuals	Foam system operations and maintenance manual provided.	☐	☐	☐
18.11	Calibration and testing	Foam system calibration and testing documentation provided.	☐	☐	☐
19.8.4	Documentation and manuals	CAFS operation and maintenance manual provided.	☐	☐	☐
19.9	Testing	CAFS testing documentation provided.	☐	☐	☐
20.25.2	Aerial operator's station	Platform for aerial device operator provided.	☐	☐	☐
20.25.3	Warning signs	Electrocution hazard sign is visible to aerial device operator.	☐	☐	☐
20.32	Piping test	Aerial device water system hydrostatic test documentation provided.	☐	☐	☐
21.4.9	Electrical, line voltage	Power source specification label located at the operator's control station.	☐	☐	☐
21.15.7	Electrical, line voltage	Third-party certification of testing provided.	☐	☐	☐
23.9.6	SCBA fill station	Test certification is provided.	☐	☐	☐
23.14.4	Air purification	Test documentation or certification that pure air is being produced is provided.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 4 of 4)		

Figure D.5.1(b) As-Delivered Weight Analysis Calculation Worksheet.

AS-DELIVERED WEIGHT ANALYSIS CALCULATION WORKSHEET										
Axle Rating Reserve Capacity Determination										
	1	2	3	4	5	6	7	8	9	10
						Total Vehicle	Front Axle	Rear Axle or Tandem	Tiller Axle	
a	Weight at delivery (with water)									
			Hose Length (ft or m)		Weight per Unit Length (lb or kg)				(100%)	
b	Hose allowance	Main hose bed		(x)	(=)					
c	Hose allowance	Main hose bed		(x)	(=)					
d	Hose allowance	Main hose bed		(x)	(=)					
(50%) (50%)										
e	Hose allowance	Cross lay		(x)	(=)					
f	Hose allowance	Cross lay		(x)	(=)					
g	Hose allowance	Cross lay		(x)	(=)					
(100%)										
h	Hose allowance	Front bumper		(x)	(=)					
i	Hose allowance	Suction hose		(x)	(=)					
j	Hose allowance	Other		(x)	(=)					
k	Hose allowance	Other		(x)	(=)					
			Seating Capacity (people)		Weight per person				(100%)	
l	Personnel allowance			(x)	250 lb (113 kg)	(=)				
(100%)										
m	Miscellaneous equipment allowance (from 9.1.2(7))									
n	Total expected in-service weight (sum of rows a through m)									
o	Axle weight ratings (from chassis manufacturer's data label)									
p	Expected reserve capacity									

© 2023 National Fire Protection AssociationNFPA 1900

Statement of Problem and Substantiation for Public Input

Add the additional information after the first paragraph to make it clear that the acceptance inspection should not be limited to just the items on the checklist.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Affiliation: Admin task group for NFPA 1900/1910
Street Address:
City:
State:
Zip:
Submission Date: Thu May 22 17:28:59 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: FR-209-NFPA 1900-2026
Statement: Add the additional information after the first paragraph to make it clear that the acceptance inspection should not be limited to just the items on the checklist.

Note there are no changes to the sub-list list in item (1). This is a TerraView problem.

Correct paragraph references.

Remove duplicate line.

Remove lines for brake testing, these values are not recorded or called for delivery.

Order lines correctly.



Public Input No. 239-NFPA 1900-2025 [Section No. D.5.1]

D.5.1

When the apparatus is ready for delivery and acceptance, the purchaser has a responsibility to check the completed apparatus carefully against the specifications, the contract, and the requirements of this document to ensure that all that was required is being delivered. This includes witnessing any required acceptance tests and verifying that the gross vehicle weight and the axle weight distribution are within the chassis and axle ratings. The delivery inspection form shown in Figure D.5.1(a) and the as-delivered weight analysis calculation worksheet shown in Figure D.5.1(b) can be useful in the inspection process. The weight distribution of in-service fire apparatus is critical to the safe operation of the apparatus. Figure D.5.1(b) and Table D.5.1 can help evaluate weight issues to confirm that the apparatus weight and distribution are within the chassis manufacturer's safe limits.

Table D.5.1 Typical Hose Weight Data

<u>Nominal Hose Diameter</u>		-	<u>Weight per Unit Length</u>	
<u>in.</u>	<u>mm</u>		<u>lb/ft</u>	<u>kg/m</u>
1	25	-	0.30	0.41
1½	38	-	0.38	0.53
1¾	44	-	0.43	0.59
2	52	-	0.50	0.69
2½	65	-	0.70	0.97
3	75	-	0.80	1.10
4	100	-	0.85	1.18
5	125	-	1.10	1.52
6	150	-	1.35	1.87

The instructions for completing the as-delivered weight analysis calculation worksheet in Figure D.5.1(b) are as follows:

- (1) In row (a), fill in the vehicle weights from a certified scale, measured under the following conditions:
 - (2) All manufacturing work completed
 - (3) Water, fuel, and foam tanks full
 - (4) Ground ladders stored on the vehicle
- (5) In rows (b) through (k), calculate the expected hose load by multiplying the length of hose by the standard values for weight per unit length and enter the result in column 7. Use the values in Table D.5.1 or obtain specific values for the brand of hose being used.
- (6) In row (l), multiply the number of seat belt–equipped seating positions by the NFPA allowance of 250 lb (113 kg) per person and enter the result in column 7.
- (7) In row (m), enter the miscellaneous equipment allowance from 9.1.2(7) in column 7.
- (8) Divide the hose, personnel, and equipment weights in column 7 in rows (b) through (m) between the front and rear axles according to the indicated percentages (or, as appropriate, from a detailed weight analysis).
- (9) In row (n), enter the sum of the values from rows (a) through (m) for each of columns 7 through 10.
- (10) In row (o), record the gross vehicle and gross axle weight ratings from the manufacturer's data label affixed inside the driving compartment.
- (11) Subtract the values in row (n) from row (o) and enter the difference in row (p). This is the expected reserve axle capacity of the in-service vehicle. If this number is negative, consult the vehicle manufacturer.

Figure D.5.1(a) Delivery Inspection Form.

CHANGES TO FIGURE D.5.1(a):

DELETE LINES FOR 7.18.5 AND 7.18.6. THESE VALUES ARE NOT RECORDED OR DELIVERED.

10.7.16.2.1.1(B) SHOULD BE 10.7.17.

THERE ARE TWO LINES FOR 13.13.7. THE FIRST OF THE TWO LINES SHOULD BE DELETED.

20.25.2 SHOULD BE 20.26.2.

20.25.3 SHOULD BE 20.26.3.

20.32 SHOULD BE 20.33.

THE LINES FOR 18.9.4 THROUGH 19.9 SHOULD BE ABOVE THE CHAPTER 20 LINES.

FIRE APPARATUS DELIVERY INSPECTION FORM					
NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
7.10.1	Personnel protection	Guards or shields are provided around hot, moving, or rotating parts.	☐	☐	☐
7.10.2	Personnel protection	Isolation or insulation is provided to protect personnel from electrical shock.	☐	☐	☐
7.11.1	Controls and gauges	All controls, switches, instructions, gauges, and instruments needed for operation are illuminated.	☐	☐	☐
7.18.5	Brakes	Stopping distance measurement provided.	☐	☐	☐
7.18.6					
7.21.1	Documentation and manuals	Required manufacturer's data provided.	☐	☐	☐
7.21.2	Documentation and manuals	Chassis operation and maintenance manual provided.	☐	☐	☐
7.21.2	Documentation and manuals	Pump operation and maintenance manual provided.	☐	☐	☐
7.21.2	Documentation and manuals	Aerial device operation and maintenance manual provided.	☐	☐	☐
7.21.2	Documentation and manuals	Aerial device load chart provided.	☐	☐	☐
7.21.2.3(4)	Documentation and manuals	Parts replacement information provided.	☐	☐	☐
7.21.2.3(6)	Documentation and manuals	Wiring diagram provided.	☐	☐	☐
7.21.2.3(7)	Documentation and manuals	Lubrication chart provided.	☐	☐	☐
7.21.2.4	Documentation and manuals	Major component manufacturers' manuals provided.	☐	☐	☐
7.21.2.5	Documentation and manuals	Apparatus manuals accessible on manufacturer's website.	☐	☐	☐
7.21.2.6	Documentation and manuals	Apparatus provides storage for, or access to, manuals.	☐	☐	☐
7.21.2.7	Documentation and manuals	Manual lists fluids.	☐	☐	☐
9.1.4	Documentation and manuals	Federal Motor Vehicle Safety weight certification label.	☐	☐	☐
9.1.5.1	Information label	Label indicating the height, length, and GVWR of the vehicle is visible to the driver.	☐	☐	☐
9.3.1.4	Brakes	Auxiliary braking system functions (required above 36,000 lb (16,000 kg) GVWR).	☐	☐	☐
9.3.2.3.2	Ground clearance, wildland fire apparatus	Ground clearance meets requirements in standard.	☐	☐	☐
9.3.2.4	Ramp breakover angle, wildland fire apparatus	Ramp breakover angle meets requirements (if specified).	☐	☐	☐
9.3.2.4.1	Approach angle, structural fire apparatus	Angle of approach at least 8 degrees (vertical / horizontal greater than 0.1405).	☐	☐	☐
9.3.2.4.1	Departure angle, structural fire apparatus	Angle of departure at least 8 degrees (vertical / horizontal greater than 0.1405).	☐	☐	☐
9.3.2.4.2	Approach angle, wildland fire apparatus	Angle of approach at least 20 degrees (vertical / horizontal greater than 0.3640).	☐	☐	☐
9.3.2.4.2	Departure angle, wildland fire apparatus	Angle of departure at least 20 degrees (vertical / horizontal greater than 0.3640).	☐	☐	☐
9.3.4	Engine and fuel tank	Label is provided at the fuel fill to indicate type of fuel.	☐	☐	☐
10.7.13.1	Warning lights — responding	No yellow lights in Zone A in the "calling for right-of-way" mode.	☐	☐	☐
10.7.13.1	Warning lights — responding	No white lights in Zone C in the "calling for right-of-way" mode.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 1 of 4)		

NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
10.7.13.1	Warning lights — blocking	No white lights in any zone in the "blocking right-of-way" mode.	☐	☐	☐
10.7.16.2.1.1(B)	Warning lights	Compliance documentation provided.	☐	☐	☐
10.8.1.1	Audible warning	Sirens certified to SAE J1849.	☐	☐	☐
10.8.2	Driving and crew compartment occupant protection	Audible warning devices and sirens are mounted low and in front of vehicle.	☐	☐	☐
10.9.1.1	Ground lighting, structural fire apparatus	Rear of apparatus is illuminated for working.	☐	☐	☐
10.9.1.2	Ground lighting, structural fire apparatus	Ground lighting is provided at areas where personnel will be stepping or climbing.	☐	☐	☐
10.9.1.3	Ground lighting, structural fire apparatus	Ground lighting illuminates automatically with the cab doors.	☐	☐	☐
10.9.2	Work lighting, structural fire apparatus	Hose bed is illuminated for working.	☐	☐	☐
10.9.5.1	Pump compartment, structural fire apparatus	Pump compartment is illuminated.	☐	☐	☐
10.9.5.2	Pump compartment, structural fire apparatus	Priming lubricant or reservoir area is illuminated.	☐	☐	☐
10.10.1(1)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and passenger or compartment doors are not closed.	☐	☐	☐
10.10.1(2)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and a ladder or equipment rack is not stowed.	☐	☐	☐
10.10.1(3)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and stabilizers are not stowed.	☐	☐	☐
10.10.1(4)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and a powered light tower is not stowed.	☐	☐	☐
10.10.1(5)	Hazard light, structural fire apparatus	Red light in driving compartment flashes if the parking brake is released and other permanently attached device is extended or deployed.	☐	☐	☐
10.13.3.2	Electrical, low voltage	Reserve capacity test documentation provided.	☐	☐	☐
10.13.3.3	Electrical, low voltage	Alternator performance test at idle documentation provided.	☐	☐	☐
10.13.3.4	Electrical, low voltage	Alternator performance test at full load documentation provided.	☐	☐	☐
10.13.4	Electrical, low voltage	Low voltage alarm test documentation provided.	☐	☐	☐
10.13.5	Electrical, low voltage	Battery charge/conditioner test documentation provided.	☐	☐	☐
10.14	Electrical, low voltage	Load analysis documentation provided.	☐	☐	☐
11.1.1	Cab occupant protection	Driving and crew compartment(s) fully enclosed.	☐	☐	☐
11.1.2	Warning signs	Cab occupant capacity sign provided and visible to the driver.	☐	☐	☐
11.1.3	Driving and crew compartment occupant protection	Seat belts are provided for each driving and crew compartment occupant.	☐	☐	☐
11.1.3.6	Warning signs	A "Seat Belts Required" sign is visible from every seating position.	☐	☐	☐
11.1.8	Driving and crew compartment occupant protection	Headroom at each seating position meets 11.1.8 requirement.	☐	☐	☐
11.1.9	Driving and crew compartment seat arrangement	Primary and secondary seats meet hip and shoulder width requirements in 11.1.9.	☐	☐	☐
11.1.10	Driving and crew compartment occupant protection	Each SCBA bracket is provided with a positive latching mechanical retaining device.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 2 of 4)		

NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
11.1.11.1	Driving and crew compartment occupant protection	All equipment required to be used during a response is fastened.	☐	☐	☐
11.1.11.2	Driving and crew compartment occupant protection	Equipment not required to be used during a response is contained or fastened.	☐	☐	☐
12.3.1	Equipment rack	The rack has a device to lock it in the stowed position.	☐	☐	☐
12.3.2	Equipment rack	The rack has retroreflective devices to make it more visible when deployed.	☐	☐	☐
12.3.4.2	Powered equipment rack	Operator can watch the rack from the controls while it is being deployed.	☐	☐	☐
12.5.1.2	Pump compartment, structural apparatus	Pump compartment access — no dimension less than 18 in. (460 mm).	☐	☐	☐
12.6.1.1	Step height	First step no more than 24 in. (610 mm) and no more than 18 in. (460 mm) between any other step.	☐	☐	☐
12.6.1.2	Step size	All steps have minimum area of 35 in. ² (22,580 mm ²).	☐	☐	☐
12.6.1.2	Step size	All steps have at least 8 in. (200 mm) clearance between leading edge and any obstruction.	☐	☐	☐
12.6.1.2	Step size	All steps can have a 5 in. (125 mm) diameter disk placed on them without overlapping the edge.	☐	☐	☐
12.6.1.3	Platform size	All platforms have at least 8 in. (200 mm) clearance between leading edge and any obstruction.	☐	☐	☐
12.6.1.4	Ladder rungs	All ladder rungs have at least 8 in. (200 mm) between the leading edge and the body or other obstruction.	☐	☐	☐
12.6.2	Step surfaces	Steps, platforms, and ladders sustain 500 lb (227 kg) load	☐	☐	☐
12.6.4.5	Step surfaces	Step surface slip-resistance documentation provided.	☐	☐	☐
12.6.5	Warning signs	Sign warning that riding is prohibited should be visible at rear platform.	☐	☐	☐
12.6.5	Warning signs	Sign warning that riding is prohibited should be visible at cross walkway.	☐	☐	☐
12.7.1	Handrails	Handrails are provided at each entrance to a driving or crew compartment.	☐	☐	☐
12.7.1	Handrails	Handrails are provided at each position where steps or ladders for climbing are provided.	☐	☐	☐
12.7.3	Handrails	All handrails have a diameter between 1 in. and 1½ in. (25 mm and 42 mm).	☐	☐	☐
12.7.3	Handrails	All handrails have 2 in. (50 mm) of clearance to any other surface.	☐	☐	☐
12.7.4	Handrails	All handrails are designed to reduce the possibility of hand slippage.	☐	☐	☐
12.8.3.1	Reflective trim	Side of vehicle has stripe at least 4 in. (100 mm) wide and 50 percent of vehicle length.	☐	☐	☐
12.8.3.1	Reflective trim	Front of vehicle has stripe at least 4 in. (100 mm) wide and 25 percent of the front width.	☐	☐	☐
12.8.3.1	Reflective trim wildland fire apparatus	Rear of vehicle has stripe at least 4 in. (100 mm) wide and 50 percent of the vehicle width.	☐	☐	☐
12.8.3.2	Reflective trim, structural apparatus	Rear of vehicle has alternating yellow and red or high-contrasting colors 6 in. (150 mm) wide in chevron pattern covering at least 50% of rear vertical surfaces.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 3 of 4)		

NFPA 1900 Paragraph	Topic	Description	Yes (Pass)	No (Fail)	N/A
13.6.1.3	Warning signs	A "serious injury or death" sign is visible.	☐	☐	☐
13.7.9.1	Pump operator's panel	All discharge connections at pump panel are 2½ in. (65 mm) or less.	☐	☐	☐
13.9.2	Pump operator's panel	All gauges, intakes, outlets, and controls are illuminated.	☐	☐	☐
13.11.2	Pump operator's panel	Engine throttle control is between 42 in. (1070 mm) and 72 in. (1830 mm) above operator's standing position for vertical pump panel.	☐	☐	☐
13.11.3	Pump operator's panel	Engine throttle control is between 32 in. (810 mm) and 50 in. (1270 mm) above operator's standing position for horizontal pump panel.	☐	☐	☐
13.12.1.1	Pump operator's panel	The instruments listed in 13.12.1.1 are all located on the pump panel in a group.	☐	☐	☐
13.12.1.4	Pump operator's panel	Visible and audible warnings are provided for low engine oil pressure and high coolant temperature.	☐	☐	☐
13.12.2.1	Pump operator's panel	Master intake and pump discharge gauges no more than 8 in. (200 mm) apart edge to edge.	☐	☐	☐
13.12.2.1.4	Pump operator's panel	Master intake is located to the left of or below the pump discharge gauge.	☐	☐	☐
13.12.2.1.4	Pump operator's panel	Gauges are labeled as "Pump Intake" and "Pump Discharge."	☐	☐	☐
13.12.3.3	Pump operator's panel	Discharge instrumentation is within 6 in. (150 mm) of the control.	☐	☐	☐
13.13.7	Tank and piping capacity	Tank-to-pump flow documentation provided.	☐	☐	☐
13.13.7	Tank and piping capacity	Water tank-to-pump flow documentation provided.	☐	☐	☐
13.13.10.1	Tank and piping capacity	Hydrostatic piping test documentation provided.	☐	☐	☐
17.6.2	Tank and piping capacity	Tank capacity certification provided.	☐	☐	☐
18.9.4	Documentation and manuals	Foam system operations and maintenance manual provided.	☐	☐	☐
18.11	Calibration and testing	Foam system calibration and testing documentation provided.	☐	☐	☐
19.8.4	Documentation and manuals	CAFS operation and maintenance manual provided.	☐	☐	☐
19.9	Testing	CAFS testing documentation provided.	☐	☐	☐
20.25.2	Aerial operator's station	Platform for aerial device operator provided.	☐	☐	☐
20.25.3	Warning signs	Electrocution hazard sign is visible to aerial device operator.	☐	☐	☐
20.32	Piping test	Aerial device water system hydrostatic test documentation provided.	☐	☐	☐
21.4.9	Electrical, line voltage	Power source specification label located at the operator's control station.	☐	☐	☐
21.15.7	Electrical, line voltage	Third-party certification of testing provided.	☐	☐	☐
23.9.6	SCBA fill station	Test certification is provided.	☐	☐	☐
23.14.4	Air purification	Test documentation or certification that pure air is being produced is provided.	☐	☐	☐
© 2023 National Fire Protection Association			NFPA 1900 (p. 4 of 4)		

Figure D.5.1(b) As-Delivered Weight Analysis Calculation Worksheet.

AS-DELIVERED WEIGHT ANALYSIS CALCULATION WORKSHEET										
Axle Rating Reserve Capacity Determination										
1	2	3	4	5	6	7	8	9	10	
				Total Vehicle		Front Axle	Rear Axle or Tandem	Tiller Axle		
a	Weight at delivery (with water)									
		Hose Length (ft or m)	Weight per Unit Length (lb or kg)		(100%)					
b	Hose allowance	Main hose bed		(x)	(=)					
c	Hose allowance	Main hose bed		(x)	(=)					
d	Hose allowance	Main hose bed		(x)	(=)					
						(50%)	(50%)			
e	Hose allowance	Cross lay		(x)	(=)					
f	Hose allowance	Cross lay		(x)	(=)					
g	Hose allowance	Cross lay		(x)	(=)					
						(100%)				
h	Hose allowance	Front bumper		(x)	(=)					
i	Hose allowance	Suction hose		(x)	(=)					
j	Hose allowance	Other		(x)	(=)					
k	Hose allowance	Other		(x)	(=)					
		Seating Capacity (people)	Weight per person		(100%)					
l	Personnel allowance			(x) 250 lb (113 kg)	(=)					
						(100%)				
m	Miscellaneous equipment allowance (from 9.1.2(7))									
n	Total expected in-service weight (sum of rows a through m)									
o	Axle weight ratings (from chassis manufacturer's data label)									
p	Expected reserve capacity									

© 2023 National Fire Protection Association NFPA 1900

Statement of Problem and Substantiation for Public Input

Note there are no changes to the sub-list list in item (1). This is a TerraView problem.
Correct paragraph references.
Remove duplicate line.
Remove lines for brake testing, these values are not recorded or called for delivery.
Order lines correctly.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Affiliation: Admin task group for NFPA 1900/1910
Street Address:
City:
State:
Zip:
Submission Date: Thu May 22 17:42:27 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: FR-209-NFPA 1900-2026

Statement: Add the additional information after the first paragraph to make it clear that the acceptance inspection should not be limited to just the items on the checklist.

Note there are no changes to the sub-list list in item (1). This is a TerraView problem.

Correct paragraph references.

Remove duplicate line.

Remove lines for brake testing, these values are not recorded or called for delivery.

Order lines correctly.

**Public Input No. 306-NFPA 1900-2025 [Section No. F.1]****F.1 General.**

To maximize firefighter capabilities and minimize risk of injuries, it is important that fire apparatus be equipped with the latest safety features and operating capabilities. In the last 40- 15 to 45- 20 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatus more than 45- 20 years old might include only a few of the safety upgrades required by the recent editions of the NFPA fire department apparatus standards or the equivalent Underwriters Laboratories of Canada (ULC) standards. Because the changes, upgrades, and fine tuning to NFPA 1901 (now 1900) have been truly significant, especially in the area of safety, fire departments should seriously consider the value (or risk) to firefighters of keeping fire apparatus more than 45- 20 years old in first-line service.

It is recommended that apparatus more than 45- 20 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with NFPA 1910; and incorporate as many features as possible of the current fire apparatus standard (*see Section F.3*). This will ensure that, while the apparatus might not totally comply with the current editions of the automotive fire apparatus standards, many of the improvements and upgrades required by the current editions of the standards are available to the firefighters who use the apparatus.

Apparatus that were not manufactured to the applicable NFPA fire apparatus standards or that are over 25- 30 years old should be replaced.

Statement of Problem and Substantiation for Public Input

Over the time this standard will be active, the 2009 edition will be 19-24 years old. The 2009 edition of NFPA 1901 had many significant safety advancements. Since then, there have been very few really significant safety enhancements in later editions of 1901/1906/1900. Apparatus is lasting longer than it did 20 or 30 years ago, although some apparatus almost 50 years old is still in front line use (it probably should not be). With the current long lead times for new apparatus and skyrocketing costs, it is reasonable to put the extra money into maintenance costs to keep apparatus in front line service for a longer time.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri Jun 13 16:37:20 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: The committee chose to keep the current recommendations given the lack of technical support to increase the age in years and the committee believes that in doing that it would create a safety issue.



Public Input No. 240-NFPA 1900-2025 [Section No. G.1]

G.1 History of NFPA 1901.

A report of the NFPA Committee on Fire Engines adopted at the 1906 NFPA Annual Meeting included many of the provisions and test procedures since followed in standards for fire department pumping apparatus.

In 1911, at the convention of the International Association of Fire Engineers, the Committee of Exhibits conducted performance tests on automobile pumping engines. The following year, with the assistance of engineers of the National Board of Fire Underwriters, tests were conducted on pumping engines discharging under net pump pressures of 120 psi, 200 psi, and 250 psi. By the 1913 convention of the International Association of Fire Engineers, the committee had developed a standard test procedure of specified duration.

The first national specification on municipal fire apparatus was NFPA 19, which was adopted by NFPA in 1914. This was followed in 1916 by specifications adopted by NFPA covering an automobile combination chemical and hose wagon and an automobile service ladder truck. These specifications received the endorsement of the Committee on Fire Department Engineering of the International Association of Fire Engineers and were adopted and published in 1920 by the National Board of Fire Underwriters. The work of the original NFPA Committee on Automobile Apparatus was suspended in 1920.

A new NFPA Committee on Municipal Fire Apparatus was organized in 1938, and NFPA adopted revised editions of NFPA 19 in 1938, 1939, and 1942. In 1948, the Committee on Fire Department Equipment was organized. The scope of the committee was broadened to include fire department tools and appliances as well as motorized fire apparatus for both municipal and rural service. There were numerous revisions of the standard to keep it abreast of current practice, and editions were issued in 1949, 1950, 1951, 1952, 1954, 1955, 1956, 1957, 1958, 1960, 1961, 1963, and 1965.

The work of the Committee on Municipal Fire Apparatus was an outstanding example of cooperation among the various fire service organizations concerned with standards for fire department apparatus and equipment. A chief engineer of the former National Board of Fire Underwriters was chairman of the original committee. A significant contribution of the National Board for over half a century was the listing of thousands of pump and engine combinations that met the specified pumper performance requirements. Recognition is also due the various insurance rating and inspection bureaus, most of which are now part of the Insurance Services Office, whose representatives witnessed the acceptance tests of apparatus built under these specifications.

The International Association of Fire Chiefs has actively participated in this work since 1912. A fire chief has served as chairman of the committee responsible for these specifications since 1938. In 1952, the Technical Committee of the Fire Apparatus Manufacturers Association was reactivated and has made significant contributions to each subsequent edition of these specifications.

In 1965, the American Insurance Association (AIA), which replaced the National Board of Fire Underwriters, decided to terminate its field testing by rating bureaus and recordkeeping by the AIA. The Fire Department Equipment Committee in conjunction with Underwriters Laboratories Inc. (UL) and the Technical Committee of the Fire Apparatus Manufacturers Association worked with AIA to transfer the testing program to UL. This program appeared in the standard in the 1966 edition and has been an accepted testing program.

Further revisions were completed and editions issued in 1967, 1968, 1969, 1970, 1971, and 1973. In 1975, the numerical designation of the document was changed to NFPA 1901 in a general renumbering of public fire protection standards, and the name was changed to *Standard on Automotive Fire Apparatus*. Partial revisions were made, and new editions were issued in 1979 and 1985.

In 1991, NFPA 1901 was extensively rewritten and split into four documents. These documents were NFPA 1901, NFPA 1902, NFPA 1903, and NFPA 1904.

Significant changes to the 1991 edition included requiring total enclosure of driving and crew areas, limiting the maximum stepping height, requiring access handrails, and requiring additional warning lights and reflective striping. The minimum pump size for a fire pump on a pumper was raised to 750 gpm (3000 L/min), and the minimum water tank size was set at 500 gal (1900 L). The documents also addressed line voltage electrical systems and foam systems for the first time.

The test and delivery data requirements were updated to ensure that more of the performance requirements of the standards were tested as part of the delivery process and that proper documentation was provided to the purchaser. Appendix A was expanded to provide more discussion of the requirements in the standard, and a new appendix was added to provide a form that a purchaser could use to define the information needed by the contractor to properly design, build, and deliver the fire apparatus.

Recognizing that many apparatus are multifunctional and that the process of maintaining separate documents for the traditional types of fire apparatus did not always address the need for nontraditional types or use of fire apparatus, the committee combined the four documents back into a single fire apparatus standard for the 1996 edition and organized the standard to cover not only the traditional types of fire apparatus but also multifunctional and nontraditional use apparatus. New chapters were added to cover compressed air foam systems, air systems, command and communication areas, and winches.

Many requirements were added throughout the document to improve the safety for firefighters using the apparatus. These requirements included limiting the height of controls to 72 in. (1830 mm) above the standing position of the operator, requiring equipment in driving and crew areas to be securely fastened or in a compartment, increasing work lighting around the apparatus, and better grouping of pump controls to keep the operator away from the intake and discharge outlets. The low-voltage electrical chapter was totally rewritten to require load analysis and load management if the total connected load could not be supplied by the vehicle's alternator. The requirements for warning lights were also rewritten to provide for different lighting for "calling for right-of-way" versus "blocking right-of-way." Requirements for warning lights were increased to provide more visibility of the fire apparatus.

New requirements were added for powered equipment racks, SCBA and cylinder storage, pump and plumbing access, and slip-on firefighting modules. The baffling requirements for water tanks were changed to allow either containment or dynamic baffling to be used. As a fundamental change in the aerial device chapter, water towers were redefined as aerial devices with elevated stream capability only. If water towers had a ladder on them, they were considered aerial ladders. Requirements were also added for secondary controls at the tip of an aerial ladder if such controls were provided.

The 1999 edition was a general update of the 1996 edition. Two new chapters were added, one covering the requirements for quint fire apparatus, the other covering the requirements for mobile foam fire apparatus. NFPA 11C, which was the basis for the chapter on mobile foam fire apparatus, was withdrawn.

Among the significant changes were the addition of a coefficient of friction for steps and walkways, the establishment of 10,000 GVWR chassis size as the smallest fire apparatus covered by the standard, the definition of the ambient temperatures the apparatus is to operate in, the allowance of more versatility in the selection of ground ladders for fire apparatus, the allowance of more flexibility in the placement of warning lights on the sides of fire apparatus, and the addition of a requirement that SCBA air refill stations on fire apparatus be fully enclosed so as to contain the fragments if a cylinder ruptures during refilling.

The 2003 edition reorganized the standard to comply with the *Manual of Style for NFPA Technical Committee Documents* and added text to clarify requirements. All metric values were reviewed and revised where necessary to provide a complete set of metric values to which a piece of fire apparatus could be built. Requirements were added governing third parties and manufacturers that certify test results.

The requirements for head height at seating positions and for storage of SCBAs in seat backs were modified, both aimed at reducing firefighter injuries. The requirement for slip resistance of standing and walking surfaces was revised to allow a second method of measurement, and the testing protocol was better defined. There was a general cleanup of the requirements in the chapter on line voltage systems, including ensuring that the performance stated on the power source specification label could be met on a continuous basis. New requirements were added for receivers and anchors for rope and removable winches. Performance requirements were established for wheel chocks.

The chapter on transfer pumps was deleted, and a new chapter on industrial supply pumps added. More specific rating points were established for auxiliary pumps. Annex B was expanded to include the discussion on developing specifications and procuring fire apparatus, and material was added to assist the purchaser in evaluating the delivered fire apparatus. A new Annex C was added showing the dimensions and weight of most equipment carried on fire apparatus to help purchasers determine the amount of storage space and the weight allowance needed for such equipment. A new Annex D was added to establish guidelines for first line and reserve fire apparatus.

The 2009 edition of NFPA 1901 was a general update of the 2003 edition. The text was reorganized to present the requirements better, text was added to clarify requirements, and the requirements for delivery of documentation and test results with the apparatus were standardized. Annex material was added throughout to assist the user in understanding and meeting the requirements.

A new chapter on trailers transporting equipment or other vehicles under emergency response conditions was added, and changes were made throughout the document where necessary to address the requirements for the vehicle that is going to tow the trailer. A requirement was added for a vehicle data recorder to capture data that can be used to promote safe driving and riding practices. The requirements for vehicle stability were changed to require tilt table testing, a calculated center of gravity no higher than 80 percent of vehicle height, or a vehicle stability system.

This edition introduced the concept of estimated in-service weight as a basis for designing the apparatus and measuring certain stability requirements and linked the maximum top speed of the apparatus to the GVWR and agent tank capacity or the tire manufacturer's ratings.

A "Statement of Exceptions" required the manufacturer to deliver either a certification that the apparatus meets the standard or a statement that describes specifically what is not fully compliant and identifies who is responsible for achieving compliance.

Because diesel particulate filters are being installed on fire apparatus, requirements for operation and performance of those devices were added.

Requirements for the minimum length of seat belts were established, together with instruction for how they are measured. A seat belt warning device to indicate when seat belts are not being properly used was required. The new requirements also allowed seat belts to be bright orange in addition to red.

The cabs on apparatus with a GVWR over 26,000 lb (11,800 kg) were required to meet standards on occupant protection during crashes. In addition, the document discouraged the wearing of fire helmets in the cab and required provisions for proper storage of helmets while the vehicle is moving.

More specific requirements for the retroreflective material used for striping apparatus were added and striping on the rear of the apparatus was changed to require retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.

The chapter on industrial supply pumps [rated at 3000 gpm (12,000 L/min) or more] was integrated with the chapter on fire pumps [rated less than 3000 gpm (12,000 L/min)], and differences in requirements based on rated capacity were spelled out in the revised fire pump chapter. A requirement was added for testing the accuracy of the gauges and flowmeters during the pump certification testing.

A change to the aerial ladder and elevating platform requirements allowed for electronic envelop control, with electronics and interlocks used to prevent an aerial device from moving into an area where it cannot support its rated capacity.

Foam systems were required to be type tested for accuracy and certified by the system manufacturer and, after installation, to be tested and certified by the final installer for proper operation.

In addition to reorganization of material in the line voltage electrical system chapter for clarification, changes included requiring the protective ground from a shoreline inlet to be bonded to the vehicle frame, requiring the neutral conductor to be switched through the transfer switch if there are multiple power sources, establishing a minimum wire size for cord on permanently mounted reels, requiring fixed scene lighting devices to be tested and listed, and additional testing.

In ~~Chapter 24,~~ the chapter on Air Systems, requirements for who is to train fire department personnel were revised. A high-temperature alarm was required in the compressor compartment together with a label cautioning users not to obstruct the airflow. Compressors were required to be equipped with an air-quality-monitoring system. If a compressor is driven by an electric motor, a shoreline connection to the electric motor was required. High-pressure air hose and couplings were to have a pressure rating equal to or greater than the highest pressure expected to be encountered, with a safety factor of 4 to 1. Requirements for the testing and certification of breathing air fill stations were changed to add systems filling SCUBA, the section on system testing is now specific to breathing air systems, and a new section was added for testing utility air systems.

The 2016 edition of NFPA 1901 included a new chapter on ultra-high-pressure (UHP) fire pumps and associated equipment due to the increased use of UHP fire pumps. The edition provided guidance to manufacturers and purchasers as to the design, testing, and performance of UHP fire pumps with a rated discharge pressure of 1100 psi (7600 kPa) or greater. The committee also clarified the requirements within ~~Chapter 16 for the fire pump chapter~~ for pump controls and added updated tables to the body of the chapter for the engine speed advancement interlock test. Additional changes were made throughout the document to remove redundant language and to clarify requirements.

For the 2024 edition of NFPA 1900, NFPA 1901 was combined with three other documents to create NFPA 1900. Text throughout the document was cleaned up and improved for readability and accuracy. New requirements for on-line and on-vehicle access to operator manuals were added. The Seat size requirements were enlarged based on recent anthropomorphic studies, and seats must be designated as primary or secondary. The chassis chapter was reworked to remove unnecessary requirements and simplify the text. ~~The Ladders and suction hose were allowed to be reused, if they pass testing. The section on emergency~~

warning lights was rewritten to refer to SAE documents for testing requirements and to add information on reducing glare/distracted driving issues when blocking the right-of-way. The requirements for rear work lighting were reduced, but more clearly specified. A backup camera system requirement was added. New language was added on low-voltage and line voltage scene lighting relating to handles and LED thermal degradation. The requirements for rear chevrons were changed to allow nonstandard colors. The pump chapter added information on pumps up to 7500 gpm. The Tank baffle spacing was increased to 51 inches to allow 102 inch wide tanks with one longitudinal baffle. The line voltage chapter recognized 50 Hz generators and added requirements for power factor of equipment on apparatus. ~~Requirements~~ Information on electric vehicles was added and requirements that conflicted with hybrid or electric vehicles were revised. Chapters about requirements for specific types of apparatus were combined and most loose equipment requirements were moved to the annex. Requirements for powered equipment racks were revised and expanded to include non-powered equipment racks. A new requirement was added for the purchaser to tell the manufacturer exactly what they needed in terms of onboard data management and communications equipment or accommodations for such equipment. The requirement for a VDR was removed, with the definition moved to the annex. Aerial anchor points were defined, and stabilizer maximum ground pressure was increased to 100 psi.

For the 2028 edition of NFPA 1900, the 1901 chapters were revised to ...TBD TO BE FILLED IN TOWARDS THE CONCLUSION OF THE FIRST DRAFT PROCESS.

Statement of Problem and Substantiation for Public Input

Update history for 2028 edition changes.
Make old chapter references generic so they do not have to be edited as chapter numbers change.
Add more information on 2024 changes.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker
Organization: Goshen Fire Company
Affiliation: Admin task group for NFPA 1900/1910
Street Address:
City:
State:
Zip:
Submission Date: Thu May 22 18:14:14 EDT 2025
Committee: FDA-AAA

Committee Statement

Resolution: FR-413-NFPA 1900-2026

Statement: Update history for 2028 edition changes.

Make old chapter references generic so they do not have to be edited as chapter numbers change.

Add more information on 2024 changes.

**Public Input No. 324-NFPA 1900-2025 [Section No. G.2]****G.2 History of NFPA 1906.**

The first edition of NFPA 1906, *Standard for Wildland Fire Apparatus*, was published in 1995 to provide a standard for apparatus that are basically designed and deployed to combat fires in wildland. The document covered apparatus with pumps ranging in size from 20 gpm to 250 gpm (76 L/min to 950 L/min) and water tanks with a capacity of 125 gal (473 L) or more.

Requirements were also provided for the first time for foam proportioning systems using Class A foam as a fire suppressant agent and for compressed air foam systems (CAFS). The apparatus covered in the standard included built-to-specification apparatus and firefighting packages designed to be slipped onto a vehicle chassis.

In the 2001 edition, the requirements for low-voltage electrical systems, including the emergency warning systems, were brought in line with the requirements in NFPA 1901, *Standard for Automotive Fire Apparatus*. The chapter on pumps was reorganized to provide requirements for four types of pumps, with the range of sizes changed to include pumps from 10 gpm (38 L/min) to 500 gpm (1900 L/min). The allowable minimum size on water tanks was lowered to 50 gal (190 L), and the chapter on line-voltage systems was removed. The document was also updated in other areas where appropriate to make the requirements consistent with those in NFPA 1901.

The 2006 edition was a general updating of the document, including making requirements consistent with those in NFPA 1901 where appropriate. It added requirements for what the manufacturer certification of test results must include and for better illumination and signage for controls, switches, instruction plates, gauges, and instruments. This edition also introduced the concept of estimated in-service weight as a basis for measuring certain stability requirements and linked the maximum top speed of the apparatus to the tire manufacturer's ratings. It also required more head height at seating positions and the use of red seat belts if available.

The 2006 edition also reorganized the requirements for water pumps installed on the wildland fire apparatus into seven categories and updated the requirements for baffling water tanks to better address smaller water tanks. The standard required type testing of foam systems followed by individualized testing of each installation. Two annexes were added, one to provide an equipment size and weight chart, the other to provide guidelines for first-line and reserve fire apparatus. Finally, the document was reorganized according to the *Manual of Style for NFPA Technical Committee Documents*.

The 2012 edition was a complete reorganization of the document, to follow the same format and style as NFPA 1901, *Standard for Automotive Fire Apparatus*. It included a new category of wildland fire apparatus titled "Wildland Mobile Water Supply Apparatus," giving specific requirements for vehicles equipped with a minimum of 1000 gal (4000 L) water tanks designed to operate off-road. This revision also included appropriate updates consistent with those requirements in NFPA 1901.

The 2016 edition of NFPA 1906 includes a new chapter on the design of wildland fire crew carriers specifically for transporting wildland fire crews. It also includes a new chapter on ultra-high-pressure (UHP) fire pumps and associated equipment due to the increased use of UHP fire pumps. This edition provides guidance to manufacturers and purchasers as to the design, testing, and performance of UHP fire pumps with a rated discharge pressure of 1100 psi (7600 kPa) or greater. The 2016 edition of NFPA 1906 also introduces a new design concept of the on-board pump-and-roll firefighting position in ~~Chapter 14~~ the body chapter. This is a seated, belted, and protected position that allows for safe and effective use of pump-and-roll operations in situations where walk-along-side pump-and-roll operations are not practical. The committee also has clarified the requirements within ~~Chapter 16~~ pump chapter for pump controls and has added updated tables to the chapter for the engine speed advancement interlock test. Additional changes have been made throughout the document to remove redundant language and to clarify requirements.

For the 2024 edition of NFPA 1900, NFPA 1906 was combined with three other documents to create NFPA 1900. The 1901 and 1906 chapters were merged and reorganized to reduce duplication and simplify requirements. Unique requirements of wildland and structural fire apparatus were maintained in the merged chapters.

Statement of Problem and Substantiation for Public Input

Typo.

Specific chapter numbers were removed so the changes can be followed as chapter numbers change.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Sun Jun 29 13:51:27 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-414-NFPA 1900-2026](#)

Statement: Typo.

Specific chapter numbers were removed so the changes can be followed as chapter numbers change.

**Public Input No. 241-NFPA 1900-2025 [Section No. G.3]****G.3 History of NFPA 1917.**

In October 2008, the Standards Council, after receipt of a request from the Technical Committee on Automotive Fire Apparatus for the development of a standard for ambulances, approved the establishment of a Technical Committee on Automotive Ambulances. The Committee developed the first (2013) edition of NFPA 1917, *Standard for Automotive Ambulances*, which established the minimum requirements for the design, performance, and testing of new automotive ambulances used for out-of-hospital medical care and patient transport.

For the 2016 edition, the committee made several significant changes throughout the entire document as a result of many task group meetings with national stakeholder organizations as well as task groups from within the committee. When the 2013 edition was published, the document immediately went back into a revision cycle so as to include several crucial test results for the 2016 edition. The committee also heard from several national stakeholder organizations about concerns regarding some of the requirements within the document that might keep the document from being adopted.

Based on the high level of interaction and involvement from the public, the committee made several significant changes to the document for the second edition. Before the document entered its revision cycle for the 2016 edition, the committee made changes to the document by utilizing the option of a Tentative Interim Amendment (TIA) to address some of the immediate concerns. Some of the areas in the document that were changed via a TIA included the deletion of **Chapter 9, the Test Methods chapter** and additional referencing of the applicable AMD (Ambulance Manufacturers Division of the NTEA) testing standards. This was done largely to reduce confusion and any potential conflict between NFPA 1917 and the AMD testing standards.

The committee also made changes to the Statement of Exceptions to make it easier for the document to be adopted. Other areas the committee made changes to included the maximum speed now being related to the rating of the tires on the vehicle rather than a specific speed limit, thus leaving it up to the AHJ to determine the maximum speed. The committee also made several changes to the requirements regarding the retroreflective materials used on the outside of the vehicle as well as the patterns that could be used on the outside of the vehicle. This change gave the AHJ the ability to determine what patterns or designs were on the vehicle, rather than there being one prescribed pattern.

Altogether, for the 2016 edition, more than 300 changes were incorporated into the document to reflect the needs and demands of the first responder community in regard to the design, performance, and testing of new ambulances.

For the 2019 edition, the committee made many changes to meet the needs and demands of the users of NFPA 1917. Since there has been a demand for a safer ambulance, for the occupants and the public, many new crash tests have been developed that are included in the new edition. As a result of the new crash test standards, some AMD tests that had been referenced or used were replaced with these new tests from the Society of Automotive Engineers (SAE). With the inclusion of these tests, the committee revised text for third-party testing and certification and for self-certification by the final stage ambulance manufacturer (FSAM). The committee has specified where third-party testing and certification must occur and where self-certification can occur by the FSAM. Other subjects covered in the 2019 edition are remounts and refurbished ambulances. **Chapter 10, a new chapter**, and Annex C, a new annex, set forth requirements and additional information on these subjects to assist the AHJ in purchasing a remounted or refurbished ambulance. This addition is to solve the lack of standards to regulate or assist AHJs with remounts.

For the 2024 edition of NFPA 1900, NFPA 1917 was combined with three other documents to create NFPA 1900. A new requirement was added for the purchaser to tell the manufacturer what they needed in terms of onboard data management and communications equipment or accommodations for such equipment. Requirements were added for electronic stability control, when available, and a rear-view camera. Seat belt length requirements were removed. Emergency lighting requirements were synchronized with the emergency lighting requirements for fire apparatus. The requirement for a seat belt warning system was removed.

For the 2028 edition of NFPA 1900, the 1917 chapters were revised to ...TBD TO BE FILLED IN TOWARDS THE CONCLUSION OF THE FIRST DRAFT PROCESS.

Statement of Problem and Substantiation for Public Input

Specific chapter numbers were removed so the changes can be followed as chapter numbers change.
Update history for 2028 changes.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Thu May 22 18:17:46 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-415-NFPA 1900-2026](#)

Statement: Specific chapter numbers were removed so the changes can be followed as chapter numbers change.

Update history for 2028 changes with more updates to be made at second draft.

**Public Input No. 242-NFPA 1900-2025 [Section No. G.4]****G.4 History of NFPA 414.**

In 1960, a tentative edition of this standard was adopted by the Association. The original document was further revised in 1962, 1963, 1964, 1965, 1967, 1968, 1969, 1970, 1975, and 1978.

In 1984, the standard was revised completely to identify three types of vehicles and to make the document easier to use. The text also was rewritten to conform with the *NFPA Manual of Style*.

The standard was revised again in 1990, and a chapter was added to provide a test method to verify the design requirements.

Notable revisions to the 1995 edition included the removal of requirements for a separate category of rapid intervention vehicle.

The major change for the 2001 edition was the combination of major firefighting vehicles and combined agent vehicles. Additionally, a table concisely provided many requirements that previously were covered by numerous paragraphs.

The 2007 revision included minor changes to the document, plus the addition of a new chapter on interior access vehicles.

The 2012 introduced many changes or enhancements due to the development and use of larger aircraft, such as the A-380 and the Boeing Dreamliner, as well as the composite materials from which they are manufactured.

The increased size of aircraft and some limitations to traditional aircraft rescue and firefighting (ARFF) vehicles prompted a new emphasis on ~~Chapter 5,~~ the chapter which deals with aircraft interior access vehicles. These vehicles assist in the evacuation of passengers from aircraft in addition to the use of evacuation slides or if the slides are not appropriate for use and deployment. The 2012 edition was that many ARFF vehicles are operated by a single person and that many of the devices and warnings/alarms are now designed with a single user/operator in mind. The capacities for ARFF vehicles were increased to address this change in aircraft as well as to ensure that the vehicles are still able to meet prescribed response time standards.

Changes included the addition of an equivalency statement, to provide the AHJ or purchaser some flexibility when it comes to meeting the requirements.

The committee also addressed the environmental impact some extinguishing agents pose and have either limited them or removed them from the document and replaced them with acceptable alternatives. The committee also reviewed the entire document to ensure that it is consistent with the source documents, with commonly accepted practices as they relate to the ARFF industry, and with the *Manual of Style for NFPA Technical Committee Documents*.

The 2017 edition revisions included updates to referenced publications and definitions and a rewrite of ~~Chapter 5,~~ the chapter on Aircraft Interior Access Vehicles. This rewrite includes the addition of language to address cab visibility, cab construction, equipment, AIAV body, docking platform, acceptance criteria, and testing. Revisions also included extracted language from NFPA 1901 on SCBA mounting and a full extract of NFPA 1901 language for ~~Chapter 6,~~ the chapter on Electrical System Performance Tests.

The 2020 edition added new requirements for forward-looking infrared cameras mounted on ARFF vehicles. Clarifications were made to the definitions and requirements for boom-mounted turrets to align more accurately with industry practices. Extensive changes were made to prototype vehicle testing procedures, with lists specifying the various testing procedures that need to be conducted based on changes made to existing vehicles. References were updated throughout the document, and minor editorial changes have been made.

For the 2024 edition of NFPA 1900, NFPA 414 was combined with three other documents to create NFPA 1900. A new requirement was added for the purchaser to tell the manufacturer what they needed in terms of onboard data management and communications equipment or accommodations for such equipment. Requirements and definitions for MADAS and VDR were moved to the annex. Requirements for electric and hybrid propulsion vehicles were added. Pump and nozzle testing was clarified. A J turn maneuverability test was added. Reflective striping requirements were simplified and clarified. A minimum handrail height was specified for AIAVs. Changes were made to lettering and striping requirements. Requirements were added for electric and hybrid electric ARFF vehicles.

For the 2028 edition of NFPA 1900, the 414 chapters were revised to ... TBD TO BE FILLED IN TOWARDS THE CONCLUSION OF THE FIRST DRAFT PROCESS.

Statement of Problem and Substantiation for Public Input

Specific chapter numbers were removed so the changes can be followed as chapter numbers change.
Update history for 2028 changes.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Thu May 22 18:20:31 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-416-NFPA 1900-2026](#)

Statement: Specific chapter numbers were removed so the changes can be followed as chapter numbers change.

Update history for 2028 changes with more updates to be made at second draft.

**Public Input No. 243-NFPA 1900-2025 [Section No. I.1.1]****I.1.1 NFPA Publications.**

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

Analysis of Ambulance Crash Data, NFPA Fire Protection Research Foundation, 2011.

Fire Protection Guide to Hazardous Materials, 13th edition, 2004 2010 .

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2021- 2024 edition.

NFPA 70®, *National Electrical Code®*, 2023- 2026 edition.

NFPA 440, *Guide for Aircraft Rescue and Firefighting Operations and Airport/Community Emergency Planning*, 2024- 2028 edition.

NFPA 460, *Standard for Aircraft Rescue and Firefighting Services at Airports*, 2024- 2028 edition.

NFPA 950, *Standard for Data Development and Exchange for the Fire Service*, 2020- 2028 edition.

NFPA 1150, *Standard on Foam Chemicals for Fires in Class A Fuels*, 2022- 2027 edition.

~~NFPA 1454 NFPA 1400~~ , ~~Standard for a on Fire and Emergency Service Vehicle Operations Training Program~~ , 2022- 2026 edition.~~NFPA 1500™~~

~~NFPA 1550~~ , ~~Standard on Fire Department Occupational Safety, Health, and Wellness Program~~ ,2021- for Emergency Responder Health and Safety , 2024 edition.

NFPA 1910, *Standard for the Marine Firefighting Vessels and Inspection, Maintenance, Testing, Refurbishing, and Retirement of In-Service Emergency Vehicles*, 2024- 2028 edition.NFPA-1934

NFPA 1950 , Standard on Personal Protective Equipment for Technical Rescue Incidents, Emergency Medical Operations, and Wildland and Urban Interface Firefighting , 2025 edition.

NFPA 1960 , Standard on Fire Hose Connections, Spray Nozzles, Manufacturer's Design of Fire Department Ground Ladders , 2020

Fire Hose, and Powered Rescue Tools , 2024 edition.

~~NFPA 1977 NFPA 1970~~ , ~~Standard on Protective Clothing and Equipment for Wildland Fire Fighting~~ , 2022 edition.~~NFPA 1981, Standard on Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, 2019- and Personal Alert Safety Systems (PASS) , 2025~~ edition.

NFPA 1989, *Standard on Breathing Air Quality for Emergency Services Respiratory Protection*, 2019- 2028 edition.

NFPA 1990 , Standard for Protective Ensembles for Hazardous Materials and CBRN , 2027.

NFPA 2500 , Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services, 2022- 2027 edition.

Statement of Problem and Substantiation for Public Input

Update document edition dates and track NFPA document consolidations.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 88-NFPA 1900-2025 [Section No. A.4.4.1]	
Public Input No. 102-NFPA 1900-2025 [Section No. A.28.3]	
Public Input No. 244-NFPA 1900-2025 [Section No. A.11.1.1]	
Public Input No. 245-NFPA 1900-2025 [Section No. A.13.2.2]	
Public Input No. 246-NFPA 1900-2025 [Section No. A.15.2.2.1]	
Public Input No. 247-NFPA 1900-2025 [Section No. A.8.10]	
Public Input No. 248-NFPA 1900-2025 [Section No. A.30.1.1]	
Public Input No. 85-NFPA 1900-2025 [Section No. A.21.3.1]	
Public Input No. 80-NFPA 1900-2025 [Section No. A.3.3.126]	
Public Input No. 93-NFPA 1900-2025 [Section No. A.8.8]	
Public Input No. 103-NFPA 1900-2025 [Section No. A.28.13.3]	
Public Input No. 85-NFPA 1900-2025 [Section No. A.21.3.1]	
Public Input No. 88-NFPA 1900-2025 [Section No. A.4.4.1]	
Public Input No. 93-NFPA 1900-2025 [Section No. A.8.8]	
Public Input No. 102-NFPA 1900-2025 [Section No. A.28.3]	
Public Input No. 103-NFPA 1900-2025 [Section No. A.28.13.3]	
Public Input No. 244-NFPA 1900-2025 [Section No. A.11.1.1]	

[Public Input No. 245-NFPA 1900-2025 \[Section No. A.13.2.2\]](#)

[Public Input No. 246-NFPA 1900-2025 \[Section No. A.15.2.2.1\]](#)

[Public Input No. 247-NFPA 1900-2025 \[Section No. A.8.10\]](#)

[Public Input No. 248-NFPA 1900-2025 \[Section No. A.30.1.1\]](#)

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 11:07:45 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: These will be updated by NFPA editorial and production staff.

**Public Input No. 249-NFPA 1900-2025 [Section No. I.1.2.1]****I.1.2.1** AASHTO Publications.

American Association of State Highway and Transportation Officials, 555 12th Street NW, Suite 1000, Washington, DC 20004.

"A Policy on Geometric Design of Highways and Streets," 2014 2018 .

Statement of Problem and Substantiation for Public Input

Update document edition.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 13:30:43 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-210-NFPA 1900-2026](#)

Statement: Update document edition.

**Public Input No. 250-NFPA 1900-2025 [Section No. I.1.2.3]****I.1.2.3 CAAS Publications.**

Commission on Accreditation of Ambulance Services, 1926 Waukegan Road, Suite 300, Glenview, IL 60025-1770.

CAAS GVS v 1 .3: 0, *Ground Vehicle Standard for Ambulances, 2022* 2016 .

Statement of Problem and Substantiation for Public Input

Revert reference back to version 1.0 since the reference in H.1 is to CAAS GVS v1.0 or later.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 13:35:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-211-NFPA 1900-2026](#)

Statement: Revert reference back to version 1.0 since the reference in H.1 is to CAAS GVS v1.0 or later.

**Public Input No. 251-NFPA 1900-2025 [Section No. I.1.2.4]****I.1.2.4 FAMA Publications.**

Fire Apparatus Manufacturers Association, P.O. 3065, Ocala, FL 34478, www.fama.org.

FAMA TC010, *Standard Product Safety Sign Catalog for Automotive Fire Apparatus*, 2019 2025 .

FAMA TC079, *Ember Separator Test*, 2021.

Statement of Problem and Substantiation for Public Input

Update document edition. This will be further updated before the next edition of NFPA 1900 is final.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Fri May 23 13:53:14 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-212-NFPA 1900-2026](#)

Statement: Update document edition. This will be further updated before the next edition of NFPA 1900 is final and the date will be updated at second draft.

**Public Input No. 252-NFPA 1900-2025 [Section No. I.1.2.5]****I.1.2.5** GSA Publications.

US General Services Administration, 1800 F Street, NW, Washington, DC 20405.

KKK-A-1822F 1822E , *Federal Specification for the Star-of-Life Ambulance, 2007* 2002 .

Statement of Problem and Substantiation for Public Input

Reverting back to 2002 version E since it is referenced in H.1 as KKK-A-1822E or later.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 13:58:11 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: This will be updated at second draft for confirmation at to the correct reference.

**Public Input No. 253-NFPA 1900-2025 [Section No. I.1.2.7]**

~~I.1.2.7 – National Interagency Fire Center Publications.~~

~~National Interagency Fire Center, Great Basin Cache Supply Office, Boise, ID 83705-5354.~~

~~Interagency Standards for Fire and Fire Aviation Operations ,2020.~~

Statement of Problem and Substantiation for Public Input

This document is no longer referenced.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 14:00:58 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-213-NFPA 1900-2026](#)

Statement: This document is no longer referenced.

**Public Input No. 254-NFPA 1900-2025 [Section No. I.1.2.8]****I.1.2.8 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 028, *Vertical Component Retention — Static Test*, 2019.

[Ambulance Manufacturers Division Standardized Test Methods, 2024, only available online at https://www.ntea.com/NTEA/Who_we_are/Affiliate_divisions/AMD_Standardized_Test_Methods.aspx.](https://www.ntea.com/NTEA/Who_we_are/Affiliate_divisions/AMD_Standardized_Test_Methods.aspx)

Statement of Problem and Substantiation for Public Input

Update the document edition. The AMD tests are all in one document, not available as separate documents, so only one referenced document is needed here.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Fri May 23 14:06:02 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-214-NFPA 1900-2026

Statement: Update the document edition. The AMD tests are all in one document, not available as separate documents, so only one referenced document is needed here.

**Public Input No. 255-NFPA 1900-2025 [Section No. I.1.2.9]****I.1.2.9** NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Arlington, VA 22209, www.nema.org.

MG 1, *Motors and Generators*, 2016 2024 .

WD 6, *Wiring Devices — Dimensional Requirements*, 1988.

Statement of Problem and Substantiation for Public Input

Update document edition. Note that WD 6 is not updated because NFPA 1900 quotes a table reprinted by permission from NEMA for extracting from the 1988 edition. There have been revisions to the extracted table since 1988, but these additions are generally not applicable to the fire service.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 14:09:49 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-215-NFPA 1900-2026](#)

Statement: Update document edition. Note that WD 6 is not updated because NFPA 1900 quotes a table reprinted by permission from NEMA for extracting from the 1988 edition. There have been revisions to the extracted table since 1988, but these additions are generally not applicable to the fire service.

**Public Input No. 256-NFPA 1900-2025 [Section No. I.1.2.10]****I.1.2.10** SAE Publications.

SAE International, Society of Automotive Engineers, 901 15th Street, NW, Suite 520, Washington, DC 20005.

SAE ARP 1328C 1328D , *Aircraft Ground Support Equipment — Wind Stability Determination*, 2020.

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)*, 2020.

SAE J706, *Rating of Winches*, 2017.

SAE J826, *Devices for Use in Defining and Measuring Vehicle Seating Accommodation*, 2021.

SAE J1194, *Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors*, 2016.

SAE J1349, *Engine Power Test Code — Spark Ignition and Compression Ignition — Net Power Rating*, 2011.

SAE J2180, *A Tilt Table Procedure for Measuring the Static Rollover Threshold for Heavy Trucks*, 2011.

SAE J2422, *Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks*, 2010.

SAE J2646, *Cab Air-Conditioning Test Procedure — Heavy Trucks with and without Sleepers*, 2011 2022 .

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

SAE J3027, *Ambulance Litter Integrity, Retention, and Patient Restraint*, 2016 2022 .

SAE J3043, *Ambulance Equipment Mount Device or Systems*, 2014.

SAE J3057, *Ambulance Modular Body Evaluation — Quasi-Static Loading for Type I and Type III Modular Ambulance Bodies*, 2017 2023 .

SAE J3058, *Ambulance Interior Storage Compartment Integrity*, 2016 2022 .

SAE J3059, *Ambulance Patient Compartment Seated Occupant Excursion Zone Evaluation*, 2017 2024 .

SAE J3102, *Ambulance Patient Compartment Structural Integrity Test to Support SAE J3027 Compliant Litter Systems*, 2017 2022 .

Statement of Problem and Substantiation for Public Input

Update document editions.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 257-NFPA 1900-2025 [Section No. A.5.8.1]	
Public Input No. 121-NFPA 1900-2025 [New Section after A.1.3]	
Public Input No. 257-NFPA 1900-2025 [Section No. A.5.8.1]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 14:46:19 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-161-NFPA 1900-2026

Statement: The technical committee identified updated editions of SAE standards to be referenced.

**Public Input No. 258-NFPA 1900-2025 [Section No. I.1.2.11]****I.1.2.11** UL Publications.

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

UL 943, *Ground-Fault Circuit Interrupters*, 2018 2023 .

Statement of Problem and Substantiation for Public Input

Update document editions.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Fri May 23 15:34:11 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: [FR-216-NFPA 1900-2026](#)

Statement: Update document editions.

**Public Input No. 259-NFPA 1900-2025 [Section No. I.1.2.12]****I.1.2.12** US Government Publications.

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001.

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

Department of Transportation (DOT), *Emergency Response Guidebook*, current edition.

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

Public Law 89-563.

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

Title 49, Code of Federal Regulations, Part 393.65, "All Fuel Systems."

Title 49, Code of Federal Regulations, Part 393.67, "Liquid Fuel Tanks."

Title 49, Code of Federal Regulations, Part 393.69, "Liquefied Petroleum Gas System."

Title 49, Code of Federal Regulations, Part 541, "Federal Theft Prevention Standards."

Title 49, Code of Federal Regulations, Part 567, "Certification."

Title 49, Code of Federal Regulations, Part 571, "Federal Motor Vehicle Safety Standards."

Title 49, Code of Federal Regulations, Part 571.105, "Hydraulic and Electric Brake Systems."

Title 49, Code of Federal Regulations, Part 571.121, "Air Brake Systems."

Title 49, Code of Federal Regulations, Part 571.216, "Roof Crush Resistance; Applicable Unless a Vehicle Is Certified to 571.216a."

Statement of Problem and Substantiation for Public Input

49 CFR 571.105 and 49 CFR 571.121 references deleted by Public Input 211.

49 CFR 571.216 no longer referenced.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 211-NFPA 1900-2025 [Section No. A.7.18.5]	
Public Input No. 211-NFPA 1900-2025 [Section No. A.7.18.5]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submittal Date: Fri May 23 15:36:56 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-217-NFPA 1900-2026

Statement: 49 CFR 571.105 and 49 CFR 571.121 references deleted by Public Input 211.

49 CFR 571.216 no longer referenced.



Public Input No. 309-NFPA 1900-2025 [Section No. I.3]

I.3 References for Extracts in Informational Sections.

NFPA 70[®], *National Electrical Code*[®], 2023- 2026 edition.

NFPA 440, *Guide for Aircraft Rescue and Fire-Fighting Operations and Airport/Community Emergency Planning*, 2024- 2028 edition.

Statement of Problem and Substantiation for Public Input

Update edition.

THIS PUBLIC INPUT IS SUBMITTED AS PART OF THE WORK OF THE ADMIN TASK GROUP FOR NFPA 1900/1910.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 100-NFPA 1900-2025 [Section No. A.3.3.9]	
Public Input No. 102-NFPA 1900-2025 [Section No. A.28.3]	
Public Input No. 80-NFPA 1900-2025 [Section No. A.3.3.126]	
Public Input No. 103-NFPA 1900-2025 [Section No. A.28.13.3]	

Submitter Information Verification

Submitter Full Name: Thomas Stalnaker

Organization: Goshen Fire Company

Affiliation: Admin task group for NFPA 1900/1910

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 16 13:56:39 EDT 2025

Committee: FDA-AAA

Committee Statement

Resolution: FR-218-NFPA 1900-2026

Statement: Update edition.