NFPA Fire Hose Committee
Agenda for Committee Meeting July 19-20, 2011
Hilton Garden Inn
Baltimore, MD

1. Call to order - 8:00 am
2. Introduction of members and guests
3. Opening remarks by the Chair, Carl Peterson
4. Opening remarks by NFPA Staff Liaison, Orlando Hernandez
5. Approval of Minutes of Aug. 18-19, 2010 meeting in Los Angeles
6. Review and take action on proposals to NFPA 1962, Standard for The Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose. Develop Committee Proposals for any remaining issues the committee wants to change.
10. Review schedule for potential meetings and establish date and time for next meeting.
11. Other items for the good of the committee.
12. Adjourn
Meeting Minutes
Technical Committee for Fire Hose
Aug. 18-19, 2010
Los Angeles, CA

Members in Attendance:

Guest in Attendance:
J. Scheffey, M. Aubuchon

1. The committee met at 8:00 am on Aug 18, 2010 to begin review of Public Proposals to NFPA 1961.

2. The document received 16 Public Proposals for the next revision cycle.

3. The committee was provided a presentation regarding the NFPA Research Foundation research project regarding friction loss in modern fire hose.

4. The committee debated how data from the research project could be used in the requirements of the NFPA 1961 standard.

5. The committee created several committee proposals as placeholders so that as information from the research project could be incorporated into the standard during the ROC period.

6. The committee acted on 16 public proposals and developed 7 committee proposals.

7. The committee debated and decided to not schedule a date and location for their ROC meeting and it was decided that could be determined at a later time.

8. Committee Chair Steve Gilbert announced that he would be officially retiring for the NFPA committee as chair.

9. Meeting was adjourned at 3:00 PM on Aug 19, 2010
1962- Log #CP1
(Entire Document)

Submitter: Technical Committee on Fire Hose,
Recommendation: Review entire document to: 1) Update any extracted material by preparing separate proposals to do so, and 2) review and update references to other organizations documents, by preparing proposal(s) as required.
Substantiation: To conform to the NFPA Regulations Governing Committee Projects.

1962- Log #11
(Title)

Submitter: Jim Glatts, FireOne
Recommendation: New text to read as follows:
Standard for the Replacement, Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose
Substantiation: There is no standard or set rule on when fire hose etc. should be replaced. This revised title, and a new paragraph in the next proposal, should alert users of fire hose that hose does have a finite life and plans should be made by the user to schedule replacement of fire hose and related equipment.

1962- Log #30
(1.1, 1.2, and 1.3)

Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Revise 1.1, 1.2 and 1.3 to read as follows:
1.1 Scope. This standard covers shall apply to the inspection, care, and use and service testing of fire hose, fire hose couplings, fire-fighting nozzles, and fire hose appliances; the service testing of fire hose and appliances; and the associated record keeping.
1.2 Purpose. The purpose of this standard is to provide requirements for the inspection, care, and use and service testing of fire hose, couplings, nozzles, and fire hose appliances and the testing of fire hose so that the reliability of fire hose, nozzles, and fire hose appliances is increased when they are used at an incident.
1.2.1 The purpose of this standard is also to establish that safety is a primary concern for the continued in-service use of fire hose, couplings, nozzles, and fire hose appliances and that safety is the ultimate decision to retire fire hose, couplings, nozzles, and fire hose appliances.
1.3 Application. Unless otherwise noted, this standard shall apply to fire hose, coupling assemblies, nozzles, and fire hose appliances, regardless of year of manufacture, while they are in storage, in service, in use, and after use.
Substantiation: Paragraph 1.1 as currently written is more of an application statement than a purpose statement. Also this standard needs to cover the service testing of more than fire hose and proposals have been submitted to expand the service testing where appropriate. Finally, terminology needs to be consistent and "fire hose appliances" is the title of NFPA 1965 which covers these products.
Add new definition to read as follows:

COUPLING SLIPPAGE. Is any movement of the coupling after the completion of the service testing of a hose testing layout. If a slippage mark has any space between the mark and the back of the coupling, it has slipped and therefore is marked as failure per Section 7.6.2.16.2

Substantiation: There are many questions and much confusion about what is slippage. This confusion has been because of no definition as to what is enough slippage, space between coupling and mark ring, to cause a failure. It’s critical a definition be added for understanding and clarification. As always, the Authority Having Jurisdiction (AHJ) has the final say.

Add text to read as follows:

HOSE FAILURE. Indication that the hose has been removed from service or condemned within the warranty period because of an in-warranty failure.

Substantiation: There are questions and confusion about what is a hose failure. This confusion has been because of no definition and customers have to research the whole NFPA 1962 standard to find one. The aforementioned definition is currently stated in Section 5.1.5 item 15. The reference to hose failure would also be reference in the new definition of hose leakage. It’s critical a definition be added for understanding and clarification. As always, the Authority Having Jurisdiction (AHJ) has the final say.

Add new definition to read as follows:

HOSE LEAKAGE. Any water exiting the hose other than the ends of the hose, adapters or nozzles. Leakage would also include any amount of water sweating through the hose jacket. Any hose leakage will constitute a hose failure.

Substantiation: There are questions and confusion about what is a hose leak, especially sweating hose. This confusion has been because of no definition. The manufacturing of some hose will have very small pin holds to let gases exit. Overtime the breaking down between the layers of the hose will cause water to escape through these pin holes, known as sweating. Water should not exit on the sides of any hose. It’s critical a definition be added for understanding and clarification. As always, the Authority Having Jurisdiction (AHJ) has the final say.
(3.3.6.8 Relay Supply Hose and 3.3.6.12 Unlined Hose)

Submitter: Jim Glatts, FireOne
Recommendation: Delete the following text:

3.3.6.8 Relay Supply Hose — A single-jacket fire hose of 3 1/2 in. (90 mm) diameter or larger used to move large volumes of water at low pressure and manufactured prior to January 1987 to meet the requirements of the 1979 and previous editions of NFPA 1961, Standard on Fire Hose.

3.3.6.12 Unlined Hose — A hose consisting of only a woven jacket that is usually of linen yarns and is of such quality that the yarn swells when wet, tending to seal the hose.

Substantiation: Relay-Supply Hose was deleted in NFPA 1961 in 2007 and is no longer manufactured. Unlined Hose is no longer manufactured per NFPA 1961. Unlined fire hose will not pass an NFPA 1962 service test.

(3.3.16 Relay Supply Hose and 3.3.24 Unlined Hose)

Note: This proposal appeared as Comment 1962-3 (Log #7) which was held from the November 2007 ROC on Proposal 1962-1.

Submitter: James E. Glatts, FireOne
Recommendation: DELETE THE FOLLOWING TWO DEFINITIONS:

3.3.16 Relay Supply Hose — A single-jacket fire hose of 3 1/2 in. (90 mm) diameter or larger used to move large volumes of water at low pressure and manufactured prior to January 1987 to meet the requirements of the 1979 and previous editions of NFPA 1961, Standard on Fire Hose.

3.3.24 Unlined Hose — A hose consisting of only a woven jacket that is usually of linen yarns and is of such quality that the yarn swells when wet, tending to seal the hose.

Substantiation: Relay-Supply Hose was deleted by the committee in the proposals (1962-6), paragraph 4.3.8 deleted. Unlined Hose is no longer manufactured per NFPA 1961. Unlined fire hose will not pass an NFPA 1962 service test.

Also, some of the definitions in Chapter 3 from other NFPA standards need to be updated with their reference paragraphs.

(4.1.10.2.2, 4.1.10.2.3, and 4.1.10.4.3)

Submitter: Jim Glatts, FireOne
Recommendation: Revise text to read as follows:

4.1.10.2.2 The relief device shall be set so that the discharge pressure does not exceed the service test operating pressure of the hose being used.

4.1.10.2.3 The relief device shall be capable of dumping enough water to atmosphere to prevent the pressure in the discharge hose from exceeding the service test operating pressure of the hose if the flow is shut off downstream of the device.

4.1.10.4.3 In no event shall the relief valve be set to relieve at a pressure that exceeds 90 percent of the service test operating pressure of the hose used with the system.

Substantiation: Setting these relief valves at the service test pressure allows no time for any pressure surge to relieve before exceeding the service test pressure of the hose. Setting the relief valves at the operating pressure will help to keep any rapid pressure increase from exceeding the service test pressure of the hose.
Relay-Supply Hose was deleted in NFPA 1961 in 2007 and is no longer manufactured.
1962- Log #43
(4.2) Final Action:

**Submitter:** Carl E. Peterson, Hingham, MA  
**Recommendation:** Delete section 4.2.  
**Substantiation:** The newest relay supply hose will be at over 25 years old when the next edition of NFPA 1962 is issued and there is no need to continue to have a separate section on this hose. Requirements for supply hose have been in the standard since 1985. Hose over 25 years old should be retired from emergency service. See proposal to section 7.1.

1962- Log #2
(4.2 and A.4.2) Final Action:

**Note:** This proposal appeared as Comment 1962-8 (Log #9) which was held from the November 2007 ROC on Proposal 1962-1.  
**Submitter:** James E. Glatts, FireOne  
**Recommendation:** Delete the entire Section 4.2 and A.4.2, Relay-Supply Hose.  
**Substantiation:** For the same reason 4.3.8 was deleted in the ROP. The hose would be over 25 years old and would probably not pass a service test.

1962- Log #45
(4.5.6 (New)) Final Action:

**Submitter:** Carl E. Peterson, Hingham, MA  
**Recommendation:** Add a requirement as follows:  
4.5.6 Suction hose shall not be used under positive pressure unless it has been specifically designed for such use.  
**Substantiation:** A lot of suction hose is not designed for use under pressure and stating a requirement will alert users to that fact.

1962- Log #44
(4.6.1) Final Action:

**Submitter:** Carl E. Peterson, Hingham, MA  
**Recommendation:** Revise 4.6.1 to read as follows:  
4.6.1 Physical inspection shall determine that the hose and couplings, and any nozzle have not been vandalized, are free of debris, and exhibit no evidence of mildew, rot, or damage by chemicals, burns, cuts, abrasion, and vermin.  
**Substantiation:** This is the section on hose inspection, nozzle inspections are covered in 6.1.3.
4.6.2.1 During the inspection, a check shall be made to determine that the hose is less than 15 years old.

Substantiation: NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, states in section 7.19.3 "Members' PPE (personal protective equipment) shall be taken out of service after 15 years from date of manufacture, regardless of testing or inspection procedures."

Fire hose is just as important as a fire fighter's personal protective equipment. Fire hose has about a 10 year expected service life. Calling for hose to be removed from firefighting service after 15 years from date of manufacture is 150% of expected service life and is in sync with NFPA 1500 and other personal protective equipment.

If the age of the hose exceeds 10 years from the date of manufacture; the hose shall be removed from live fire service or condemned.

It is known that a hose that has exceeded it's designed service life expectancy will likely have deficiencies in multiple areas due to varied service and environmental conditions. This can only be detected by destructive testing. Fire hose faces the same service environment and worse storage conditions than fire fighter turn out gear. The care and maintenance of Protective Ensembles (turn out gear) is governed by NFPA 1851. It states in 10.1.2 the "fire fighting ensembles and ensemble elements shall be retired in accordance with 10.2.1, no more than 10 years from the date the ensembles or ensemble elements were manufactured".

The similar logic of this is stated within the 1851 standard. This is a similar situation where destructive testing is required to prove reliability.

Certainly the fire hose is the next most important protection for the fire fighter.

Chapter 5 Hose Records and Replacement

5.4 Fire hose users and the Authority Having Jurisdiction shall establish a replacement schedule for their fire hose.

Substantiation: It seems every product today has a service life or expiration date. In the fire service personal protective equipment is 15 years, fire apparatus is 25 years. While there is no scientific evidence relating to the exact service life of fire hose, at some point fire hose has to be replaced. The new sentence will help make users aware of this. A replacement plan can be as simple as replacement of fire hose when an apparatus is replaced. The replacement plan can be part of a budgeting process.
Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Revise the title of Chapter 5 to “Hose Record Keeping”
Add a new section requiring record keeping for nozzles and fire hose appliances to read as follows:

5.4 Nozzles and Fire Hose Appliances.
5.4.1 A record for each nozzle or fire hose appliance shall be maintained from the time the nozzle or fire hose appliance is purchased until it is discarded.
5.4.2 Each nozzle or fire hose appliance shall be assigned an identification number for use in recording its history throughout its service life.
5.4.3 The identification number shall be stamped on the nozzle or fire hose appliance in a manner that prevents damage to the nozzle or appliance.
5.4.4 The following information, if applicable, shall be included on the record for each nozzle or fire hose appliance:
(1) Assigned identification number
(2) Manufacturer
(3) Product or model designation
(4) Vendor
(5) Warranty
(6) Hose connection size
(7) Maximum operating pressure
(8) Flow rate or range
(9) Date received and date put in service
(10) Date of each service test and service test results
(11) Damage and repairs including who made the repairs and cost of repair parts
(12) Reason removed from service

Substantiation: With the above change, the chapter covers more than hose records and needs to change.
There is currently no record keeping requirement in the standard for nozzles and fire hose appliances. It is just as important that records be kept for these devices as it is for fire hose.
Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Add requirements for service testing nozzles as follows:

6.1.11 Service-Testing of Nozzles. Each nozzle with a shut-off mechanism shall be service tested at least annually.

6.1.11.1 Hydrostatic Test.
6.1.11.1.1 The nozzle being tested shall be mounted in a device capable of holding the nozzle and the shut-off mechanism shall be closed.
6.1.11.1.2 A device capable of exerting a hydrostatic pressure of 300 psi (2070 kPa) or 1½ times the manufacturer’s defined maximum operating pressure, whichever is higher, shall be attached to the nozzle.
6.1.11.1.3 All air shall be bled from the system.
6.1.11.1.4 The gauge pressure shall be increased by 50 psi (345 kPa) increments and held for 30 seconds at each pressure up to the maximum pressure for which the nozzle is being tested and held for 1 minute without leakage.
6.1.11.1.5 There shall be no leakage through the valve or shut-off.

6.1.11.2 Shutoff Valve Test.
6.1.11.2.1 A water flow through the nozzle at 100 psi shall be established.
6.1.11.2.2 The valve or shut-off shall be closed and reopened twice and shall operate smoothly without evidence of binding or other problems.

6.1.11.3 Pattern Adjustment Test. If the nozzle has a pattern adjustment, the pattern shall be adjusted from the narrowest to the widest and back while water is flowing through the nozzle at 100 psi and shall exhibit no signs of binding or other problems.

Substantiation: The standard currently has a service test requirement for hose and hose appliances but not for nozzles. Nozzles are perhaps the most critical component on the fire ground and should be service tested at least annually to ensure they are operating correctly. Note that 6.1.4 requires service testing after repair but there is no process defined.

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Submitter: Jim Glatts, FireOne
Recommendation: Add text to read as follows:

6.2.3

(10) All nonthreaded connections shall be provided with locks within the confines of the nonthreaded connection to ensure against unintentional disconnection.

Substantiation: Locks have been installed on Storz couplings since 1991. After 20 years the hose should be considered for replacement or new locking couplings installed to replace non-locking couplings.

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Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Revise the title to read: “Service Testing of Fire Hose”.

Substantiation: This document needs to cover the service testing of more than fire hose and changing the title of chapter 7 clarifies what this chapter covers.
Delete the entire Sections 7.1.1 and 7.1.2 of the 2003 edition.

Replace with new text that follows:

7.1.1 Attack fire hose and adaptors, nozzles and appliances used with attack fire hose shall be hydrostatically tested to 300 psi.

7.1.2 Supply fire hose and adaptors, nozzles and appliances used with attack fire hose shall be hydrostatically tested to 200 psi.

7.1.3 Forestry fire hose and adaptors, nozzles and appliances used with attack fire hose shall be hydrostatically tested to 300 psi.

7.1.4 Occupant use hose and adaptors, nozzles and appliances used with attack fire hose shall be hydrostatically tested to 150 psi.

7.1.5 Any fire hose that in the course of firefighting activities will be used at pressures above 250 psi shall be hydrostatically tested 50 psi above the normal operating pressure of the hose.

7.1.6 Previous service test pressures stenciled on a hose jacket that do not match these test pressures should be disregarded.

Substantiation: The listed service test pressures match service test pressures in NFPA 1961, 2007 edition. The 2003 edition of NFPA 1962 has various test pressures based on age or what is stenciled on a hose. At a firefighting operation all fire hose and adaptors and appliances and nozzles, regardless of age or manufacturer or stenciled service test pressure, can be and are routinely connected together and operated at the same pressures. The entire system of attack hose or supply hose or forestry hose or occupant use hose is used as a system with adaptors, appliances and nozzles. The system of hose layouts should be service tested together at a standard pressure. In addition, fire apparatus pump systems are only required to be hydrostatically tested to 250 psi at the completion of manufacture. NFPA 1901, 2003 edition follows with the 250- psi test description.

(16.13.8) Manufacturer’s Predelivery Test.

16.13.8.1 The manufacturer shall conduct a piping hydrostatic test prior to delivery of the apparatus.

16.13.8.2 The test shall be conducted as follows:

(1) The pump and its connected piping system shall be hydrostatically tested to a gauge pressure of 250 psi (1700 kPa).

Also, fire department pumpers are required annually to undergo a fire pump service test. The highest pressure a fire department pumper gets tested to annually is 250 psi.

The 300 psi test pressure is 50 psi higher than the top operating pressure of a fire department pumper. For those applications where higher pressures are used by a fire department such as for high rise standpipe connections using three stage pumps and very high pressure hose, section 7.1.5 would apply for their hose service testing.
Revise 7.1 to read as follows:

7.1.1 Hose Manufactured Prior to July 1987. Hose manufactured prior to July 1987 to meet the requirements of the 1979 and previous editions of NFPA 1961, Standard on Fire Hose, shall be removed from service.

7.1.1.1 The service test pressure for hose manufactured prior to July 1987 to meet the requirements of the 1979 and previous editions of NFPA 1961, Standard on Fire Hose, shall be determined from Table 7.1.1.1 based on the type of hose and the acceptance or proof test pressure that is stenciled on each length of hose and reads "Tested to ___ psi."

7.1.1.2 The acceptance or proof test pressure that is stenciled on hose manufactured prior to July 1987 shall not be used for the service test pressure.

Hose manufactured during July 1987 or after that date to the 1987 or subsequent editions of NFPA 1961 shall be service tested as specified in Section 7.2.

7.1.2.1 The service test pressure for hose manufactured in July 1987 and after shall be determined from Table 7.1.2.1 based on the type of hose and the acceptance or proof test pressure that is stenciled on each length of hose and reads "Service Test to ___ psi per NFPA 1962" or "Service Test to ___ bar per NFPA 1962."

7.1.2.2 New proof pressure tests for hoses shall only be conducted at the point of manufacture or at a facility equipped to perform these tests.

7.1.2.3 Tests in the field shall not subject the hose to its proof test pressure.

7.1.3* After the correct service test pressure has been determined for each length of hose to be tested, the service test shall be conducted as specified in Section 7.2.

Delete Table 7.1.1.1.

Move current 7.1.2.1 to become A.7.1.2.

Delete A.7.1.3.

Substantiation: Hose manufactured before July 1987 is typically service tested to a lower test pressure and mixing hose manufactured after July 1987 which requires a minimum service test pressure of 300 psi with hose tested to a lower test pressure in the same hose line can lead to failures in the hose line. Hose manufactured before July 1987 will be at least 25 years old by the time this standard is issued and fire departments should not be relying on hose that old for emergency service when a failure can jeopardize the safety of fire fighters.

Current 7.1.2.1 is not a requirement and belongs in the annex.

7.1.2.2 and 7.1.2.3 are not necessary and create confusion as proof pressures are only mentioned in NFPA 1961, not this standard.
Report on Proposals – November 2012

1962- Log #18 (7.1.1 and 7.1.2) Final Action:

Submitter: Jim Glatts, FireOne
Recommendation: Revise text to read as follows:

7.1.1 Hose Manufactured Prior to July 1987—
7.1.1.1 The service test pressure for hose manufactured prior to July 1987 to meet the requirements of the 1979 and previous editions of NFPA 1961, Standard on Fire Hose, shall be determined from Table 7.1.1.1 based on the type of hose and the acceptance or proof test pressure that is stenciled on each length of hose and reads “Tested to ___ psi.”

Table 7.1.1.1
Service Test Pressures for Hose Manufactured Prior to July 1987

7.1.1.2 The acceptance or proof test pressure that is stenciled on hose manufactured prior to July 1987 shall not be used for the service test pressure.

7.1.2 Hose Manufactured July 1987 and After—
7.1.2.1 The service test pressure for hose manufactured in July 1987 and after to meet the requirements of the 1987 and subsequent editions of NFPA 1961, Standard on Fire Hose, is stenciled on each length of hose and reads “Service Test to ___ psi per NFPA 1962” or “Service Test to ___ bar per NFPA 1962.”

7.1.2.2 New proof pressure tests for hoses shall only be conducted at the point of manufacture or at a facility equipped to perform these tests. Tests in the field shall not subject the hose to its proof test pressure. After the correct service test pressure has been determined for each length of hose to be tested, the service test shall be conducted as specified in Section 7.2.

7.1.1 Attack fire hose and adaptors, nozzles and appliances used with attack fire hose shall be hydrostatically tested to 300 psi.
7.1.2 Supply fire hose and adaptors and appliances used with supply fire hose shall be hydrostatically tested to 200 psi.
7.1.3 Forestry fire hose and adaptors, nozzles and appliances used with forestry fire hose shall be hydrostatically tested to 300 psi.
7.1.4 Occupant use hose and adaptors, nozzles and appliances used with Occupant use fire hose shall be hydrostatically tested to 150 psi.
7.1.5 Any fire hose that in the course of firefighting activities will be used at pressures above 250 psi shall be hydrostatically tested at 50 psi above the normal operating pressure of the hose.
7.1.6 Previous service test pressures stenciled on a hose jacket that do not match these test pressures shall be disregarded.

Substantiation: The listed service test pressures match service test pressures in NFPA 1961. The 2008 edition of NFPA 1962 has various test pressures based on age or what is stenciled on a hose. At a firefighting operation all fire hose and adaptors and appliances and nozzles, regardless of age or manufacturer or stenciled service test pressure, can be and are routinely connected together and operated at the same pressures. The entire system of attack hose or supply hose or forestry hose or occupant use hose is used as a system with adaptors, appliances and nozzles. The system of hose layouts should be service tested together at a standard pressure. In addition, fire apparatus pump systems, when new, are only required to be hydrostatically tested to 250 psi at the completion of manufacture and to undergo a 30 minute pumping test at 250 psi (1901: 16.13.2)

NFPA 1901, 2009 edition follows with the 250-psi test description.

16.13.10* Manufacturer’s Predelivery Test.
16.13.10.1 The manufacturer shall conduct a piping hydrostatic test prior to delivery of the apparatus.
16.13.10.2 The test shall be conducted as follows:
(1) The pump and its connected piping system shall be hydrostatically tested to a gauge pressure of 250 psi (1700 kPa).

Also, fire department pumper is required annually to undergo a fire pump service test. The highest pressure a fire department pumper gets tested to annually is 250 psi. NFPA 1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, 2007 Edition, Chapter 18 Performance Testing of Fire Pumps The 300 psi test pressure is 50 psi higher than the highest normal operating pressure of a fire department pumper. For those applications where higher pressures are used

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by a fire department, such as for high rise standpipe connections, using three stage pumps and very high pressure hose, section 7.1.5 would apply for their hose service testing.

1962- Log #12
(7.2.3) Final Action:

Submitter: Edward J. O'Kinsky, Waterway Inc.
Recommendation: Revise text to read as follows:
Lengths of hose to be tested simultaneously shall be of the same service test pressure and shall be considered the hose test layout, except for hose testing machines designed and manufactured to test multiple testing pressures simultaneously for each hose test layout length of 300'.
Substantiation: There are hose testing machines that currently have the ability of testing multiple lengths of 300' in a hose testing layout at different service test pressures. Each length of a maximum 300' shall continue to be tested at the same service test pressure as currently stated in NFPA 1962.

1962- Log #33
(7.2.3) Final Action:

Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Revise 7.2.3 as follows:
7.2.3 Lengths of hose lines to be tested simultaneously shall be of the same service test pressure and shall be considered the hose test layout.
Add a definition of hose line to read as follows:
Hose Line. One or more lengths of hose coupled together.
Substantiation: There is a difference in between a length of hose and a hose line as used in 7.2.1 through 7.2.4 and this change help clarify the difference.

1962- Log #13
(7.2.6) Final Action:

Submitter: Edward J. O'Kinsky, Waterway Inc.
Recommendation: Revise text to read as follows:
All 3½ in. (89 mm) and larger diameter hose shall be service-tested while lying flat with a short length of smaller diameter hose with the same or higher proof pressure used to connect the pressure source to the hose being tested. If back pressure or bleeding off of air will not cause a safety concern or problem a short length of hose may be not be needed.
Substantiation: While the current standard will diminish back pressure for test equipment unavailable to move and not strong enough to hold back any pressure this is not the same for all testing equipment. There are hose testing systems able to handle back pressure without using the extra short lengths of hose.
Using the short lengths while testing 3½ and larger diameter will eliminate the ability for a test site to contain 300' stretch of hose to be tested. The length of the short hose to be used would have to be subtracted from the 300' currently stated within Section 7.2.4.
A hose testing machine or hydrostatic test pump shall be used as a pressure source.

DELETE 7.7 through 7.7.15 inclusive (Fire Department Pumpers, Stationary Pumps)

Substantiation: A.7.2.8 pretty much tells the story about why not to use a fire department pumper to test fire hose. In addition fire department pumping systems are only hydrostatically tested to 250 psi when they are new and are only tested to a maximum operating pressure of 250 psi annually. Testing attack hose to 300 psi using an apparatus centrifugal pump is definitely not a safe practice. There are plenty of hose testing machines available today. Fire departments can even share or borrow machines from each other if the machines will only be used a few days a year or if cost is a consideration. Other problems in using fire department pumpers is plastic gauge tubes blowing off at pressures in excess of 250 psi, drain lines and drain valves blowing off or being damaged, and pipe threads developing leaks on older pump systems.

A hose testing machine, a stationary pump, or a pump on a fire department apparatus shall be used as a pressure source.

If a hose testing machine is used, the procedure defined in Section 7.6 shall be used.

If a stationary pump or a pump on a fire department apparatus is used, the procedure defined in Section 7.7 shall be used.

Substantiation: A pump on a fire apparatus should not be used as the pressure source for hose testing.

A hose testing machine or hydrostatic test pump a stationary pump, or a pump on a fire department apparatus shall be used as a pressure source.

Delete 7.7 through 7.7.15 inclusive (Fire Department Pumpers, Stationary Pumps)

Substantiation: A.7.2.8 pretty much tells the story about why not to use a fire department pumper to test fire hose. In addition fire department pumping systems are only hydrostatically tested to 250 psi when they are new and are only tested to a maximum operating pressure of 250 psi annually. Testing attack hose to 300 psi using an apparatus centrifugal pump is definitely not a safe practice. There are plenty of hose testing machines available today. Fire departments can even share or borrow machines from each other if the machines will only be used a few days a year or if cost is a consideration. Other problems in using fire department pumpers is plastic gauge tubes blowing off at pressures in excess of 250 psi, drain lines and drain valves blowing off or being damaged, valves and valve seats are damaged and pipe threads developing leaks on older pump systems.

In addition, loss and injury involving fire hose occurs predominantly during hose testing.
Submitter: Duane Leonhardt, Mercedes Textiles Ltd.
Recommendation: Add new text to read as follows:
7.6.1.5 If the hose machine incorporates elevated outlets for water supply, which are higher than the inflated diameter of the hose from the testing surface, a means to vent trapped air shall be provided between the hose and the outlet valve.
Substantiation: Service testing of fire hose has proven to be a dangerous operation that must be carefully controlled. In many instances test machines have elevated outlets which lead to a substantial amount of trapped air at the water input end. Large diameter hose is a particularly subject to this problem if the water flow from the pump is low. While the testers are taught to vent air from the capped end, this does not vent the air immediately following the water inlets if the manifold is high. This air creates a very dangerous explosive situation at the input end should the hose fail.

Submitter: Duane Leonhardt, Mercedes Textiles Ltd.
Recommendation: Add new text to read as follows:
If the hose testing machine incorporates elevated outlets for water supply, which are higher than the inflated diameter of the hose from the testing surface, vent air next to water input end.
Substantiation: Service testing of fire hose has proven to be a dangerous operation that must be carefully controlled. In many instances test machines have elevated outlets which lead to a substantial amount of trapped air at the water input end. Large diameter hose is a particularly subject to this problem if the water flow from the pump is low. While the testers are taught to vent air from the capped end, this does not vent the air immediately following the water inlets if the manifold is high. This air creates a very dangerous explosive situation at the input end should the hose fail.

Submitter: Edward J. O’Kinsky, Waterway Inc.
Recommendation: Revise text to read as follows:
Each hose shall then be marked at the end or back of each coupling to determine, after the hose has been drained, if the coupling has slipped during the test
Section 7.6.2.8 should also be moved prior to section 7.6.2.3, to be consistency with A.7.6.2.6.
Substantiation: If section A.7.6.2.6 indicates; ‘hose can be expected to stretch when pressure is increased to the test pressure’, Section 7.6.2.3 indicates to raise the pressure to 45 PSI and Section 7.6.2.8 indicates to mark the back of the coupling with a slippage ring. How is one to know if the coupling has or not slipped between the pressures of 1 PSI to 45 PSI prior to marking with ring this would eliminate any confusion.

Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Revise 7.6.2.12 to read as follows:
7.6.2.12 After the stabilization period, the hose test layout shall hold the service test pressure for 3 minutes without further pressure boosts.
Substantiation: This is editorial for consistency of terminology.
Note: This proposal appeared as Comment 1962-18 (Log #5) which was held from the November 2007 ROC on Proposal 1962-1.
Submitter: James E. Glatts, FireOne
Recommendation: Revise text to read as follows:
7.6.2.12 After the stabilization period, the hose layout shall hold the service test pressure for 1 minute without further pressure boosts.
7.6.2.14 If the hose test layout does not hold the service test pressure for the 3 1-minute duration, the service test shall be terminated.
Substantiation: Changing the 3 minute hold time to 1 minute will make the time the same as the manufacturing standards and the proposed section 8.3.1.3. In addition, FireOne has been testing fire hose for 15 years and currently tests millions of feet of hose and hose layouts per year and we find the 3 minute (and the old 5 minute) hold time to be totally useless. When a fire hose or appliance or coupling or nozzle is going to fail during a hydrostatic test it happens pretty quickly, sometimes just at hydrant pressure and usually while the pressure is being raised. Once a hose layout reaches test pressure and has not failed or a coupling has not moved, then it is a given that the hose layout passed testing.
The 1 minute hold time will provide consistency for test procedures among the various NFPA standards for hose and appliances etc. Also, it takes about 1 minute to inspect a hose layout under test pressure.

Submitter: Edward J. O'Kinsky, Waterway Inc.
Recommendation: Revise text to read as follows:
The marks placed on the hose at the back of the couplings shall be observed for coupling slippage after completion of service test and after hose has been drained.
Substantiation: The aforementioned words has been added to be consistent with 7.6.2.8 of when one looks for any slippage

Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Delete section 7.7
Editorially revise any references to section 7.7 or to testing with a stationary pump or pump on a fire apparatus to eliminate the reference.
Substantiation: A lot of fire hose currently sold has a service test pressure of 400 psi. The pumps on fire apparatus are not designed to create the pressures needed to test fire hose in a static environment even at 300 psi, the minimum service test pressure for attack hose. Attempting to do so will cause damage to the fire pump. The use of hose testing machines is safer if a hose line fails during the test and damage to the pump on a fire apparatus is averted.

Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Revise the title to read:
Use, Inspection and Service Testing of Fire Hose Connected Appliances.
Substantiation: This is editorial to standardize terminology.
1962- Log #38 (8.3) Final Action:

Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Revise 8.3 to read as follows:
8.3 Service-Testing of Fire Hose Appliances. Each fire hose appliance shall be service tested in accordance with this section at least annually.
Substantiation: Currently there is no requirement for an annual service test, only after repair or cleaning off corrosion.

1962- Log #7 (8.3.1.1 and A.8.3 (New)) Final Action:

Note: This proposal appeared as Comment 1962-24 (Log #18) which was held from the November 2007 ROC on Proposal 1962-1.
Submitter: James E. Glatts, FireOne
Recommendation: Revise text to read as follows:
8.3.1.1 The appliance being tested shall be tested to a hydrostatic pressure of 300 psi for appliances used with attack and forestry hose, 200 psi for appliances used with supply hose and 150 psi for appliances used with occupants use hose. or $\frac{3}{4}$ times the manufacturer's defined maximum operating pressure, whichever is higher.
A.8.3 Nozzles, adaptors and appliances can be hydrostatically tested with fire hose in a fire hose layout providing the same test pressure is used for all components of the layout.
Substantiation: Nozzles adaptors and appliances are generally used as part of a hose test anyway. Nozzles adaptors and appliances are used together with fire hose during firefighting operations. They should be tested at the same test pressures as the respective type of hose that they will be used with. The “manufacturer's defined maximum operating pressure” will dictate that the appliance is used with attack hose, supply hose, forestry hose or occupants use hose.

1962- Log #23 (8.3.2.3) Final Action:

Submitter: Jim Glatts, FireOne
Recommendation: Revise text to read as follows:
8.3.2.3 After successful completion of the relief valve test, the relief valve shall be reset to the pressure in accordance with the AHJ but shall not exceed the operating pressure of the hose used with the appliance.
Substantiation: This is the same as the proposed revision to 4.1.10 and reminds the AHJ that there is a maximum pressure, the operating pressure, that the hose and appliances can be used at.

1962- Log #37 (8.3.3.3 and 8.3.3.4 (New)) Final Action:

Submitter: Carl E. Peterson, Hingham, MA
Recommendation: Add text to read as follows:
8.3.3.3 A water flow through the fire hose appliance at 100 psi shall be established.
8.3.3.4 The valve shall be closed and reopened twice and shall operate smoothly without evidence of binding or other problems.
Substantiation: Just because a valve does not leak does not mean there are not problems. The valve needs to be checked for smooth operation and other possible problems.
1962- Log #42 Final Action:
(A.3.3.4 (New) )

Submitter: Carl E. Peterson, Hingham, MA

Recommendation: Add an annex to 3.3.4 to read as follows:
A.3.3.4 Fire hose appliances include such devices as monitors, ladder pipes, wyes, siameses, and hydrant valves.

Substantiation: Adding some examples will help the reader understand what the requirements apply to.

1962- Log #8 Final Action:
(A.7.4.1)

Submitter: John F. Bender, Underwriters Laboratories Inc.

Recommendation: Revise text as follows:
A.7.4.1 If booster hose is manufactured in accordance with ANSI/UL 92, Fire Extinguisher and Booster Hose, the maximum working pressure will be shown on the cover of the hose.

Substantiation: Reason: Remove ANSI approval designation from ANSI/UL 92.
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1962-     Log #20
(Annex B)

Submitter: Jim Giatts, FireOne
Recommendation: Add text to read as follows:
Renumber existing Annex B to Annex C

B.1 General. Fire hose is the most important tool that a firefighter uses. Fire hose must provide many years of perfect and reliable service along with the couplings, nozzles, adaptors and appliances that are used with fire hose.

The purchase of new fire hose involves an important investment and should be treated as such. There are many very good products available today and a purchase should be made only after a detailed study of the fire department’s needs, taking into consideration other equipment the department uses or plans to buy.

B.2 Writing the Specifications. This standard, along with NFPA 1961, 1963, 1964 and 1965, provides the minimum technical requirements that new fire hose, couplings, nozzles, adaptors and appliances are expected to meet. Specifications should take into consideration the existing, proposed and future use of the hose and components.

B.2.1 The first consideration in planning the purchase of fire hose is the characteristics of the new hose. Desired characteristics should be identified and then prioritized. Those characteristics may include:

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<thead>
<tr>
<th>Order of Importance</th>
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<tbody>
<tr>
<td>Size/diameter</td>
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<tr>
<td>Length</td>
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<tr>
<td>Application</td>
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<tr>
<td>Color</td>
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<td>Construction</td>
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<td>Packability</td>
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<td>Folds</td>
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<td>Flexibility</td>
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<tr>
<td>Slide-ability</td>
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<td>Friction loss</td>
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<tr>
<td>Weight</td>
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<tr>
<td>Kink resistance</td>
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<td>Country of manufacture</td>
</tr>
<tr>
<td>Cost</td>
</tr>
<tr>
<td>Warranty</td>
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<tr>
<td>Manufactured in accordance with NFPA standards</td>
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<tr>
<td>UL Listing/FM Approval</td>
</tr>
<tr>
<td>Expected service life</td>
</tr>
<tr>
<td>Normal operating pressure</td>
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<tr>
<td>Compatibility with planned and existing nozzles, appliances and adaptors</td>
</tr>
</tbody>
</table>

Write a specification outline based upon the prioritized characteristics. Completion of the form should assist the purchaser in developing the specifications.

B.2.2 The second consideration in the purchase of a fire hose is the associated equipment components. These components include new and exiting couplings, nozzles, adaptors and appliances. Are all components compatible in terms of operating pressure, connection, weight limits (GVWR and carrying capacity of the apparatus) and storage space?

B.2.3 The purchaser should also define in the specifications the warranty desired for the hose and components. The warranty is a written guarantee of the integrity of the hose or components that defines the manufacturer’s responsibility within a given time period. If a secondary manufacturer is involved in modifying components that are warranted by the original manufacturer, the responsibility for warranty work should be clearly understood by the original manufacturer, the secondary manufacturer, the dealer, and the purchaser.

B.3 Awarding the Contract. With the award of a contract, it is important for the purchasing authority to understand exactly whom the contract is with and the nature of the relationship with the hose manufacturer. Some manufacturers work through a dealer network in which the dealer purchases the hose and components from manufacturers and then resells the hose and components to the purchasing authority. Other manufacturers work through sales agents or
representatives who solicit and negotiate a contract between a purchasing authority and a manufacturer but who never take ownership to the equipment. This difference can affect where the responsibility lies for the proper fulfillment of the contract.

B.4 Acceptance. When the hose and components are ready for delivery and acceptance, the purchaser has a responsibility to check the completed order carefully against the specifications, the contract, and the requirements of this document to ensure that all that was required is being delivered. This includes requesting at the time of purchase, that the manufacturer provide the purchaser with certification that the fire hose or fire hose assembly, or components furnished, have been tested and are in compliance with the requirements of this standard and the respective manufacturing standard. Only when the purchaser is totally satisfied that the contract has been fulfilled should payment be authorized.

Substantiation: NFPA 1962 is one of NFPA’s top selling standards. 1962 is a users standard. Offering purchasing guidance to users will help them procure fire hose products manufactured in accordance with NFPA manufacturer’s standards.

1962-Log #9
(B.1.2.1)

Submitter: John F. Bender, Underwriters Laboratories Inc.
Recommendation: Revise text as follows:
B.1.2.1 ANSI/UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.
Substantiation: Reason: Remove ANSI approval designation and update UL 92 to most recent edition.
William Lowry, Mean Jean, Inc.

**Fire Chimney Nozzle 1964**

This nozzle is a whole new way of extinguishment using ambient mist (water vapour) to almost instantly put out any type of chimney fire with little or no damage to the flue and prevents spread into the surrounding area. There is nothing today that can accomplish this type of extinguishment. This is my reason for this proposal...

Today chimney fires especially in rural areas with wood burning stoves, fireplaces and what have you are a real big problem.

My device is small, lightweight, fire proof and can be preattached to a 1/2 or 3/4 inch hose which is very flexible and easy to maneuver. Basically you only need a few fire fighters and a thirty five foot ladder to be effective. No more need to tear apart everything causing even more damage than the fire itself and also you predict the integrity of the flue itself. The ambient mist permeates the whole flue effecting rapid extinguishment with water damage or high pressure damages.

The tool comprises a mist head with four mist nozzles, spaced equidistantly in a horizontal plane around the horizontal circumference of the head. All dimensions are in inches. It is a head that is a rectangular block, other shapes are contemplated, such as a cylindrical block., each tip points at a 45 degree angle outwards from the head. The head is attached directly to a hose line. The chimney tool is used by lowering the device down a chimney while water is supplied, thereby creating an ambient mist as the chimney tool is lowered. The ambient mist extinguishes the fire quickly with little or no water damage caused to the flue. The chimney tool preferably has no handle, and is directly attached to a hose line.

William Lowry, Mean Jean, Inc.

**The present invention relates to ambient mist technology. In particular, the present invention relates to tools that employ ambient mist technology in combating fire, smoke and airborne pollutants.**

The mist pattern produced by the device of the present invention can be used to fight four classes of fires, without the occurrence of back draft. Conventional nozzles used in firefighting tools often create a back draft during the course of use. Unlike conventional firefighting materials, the fine mist particles produced by the device of the present invention do not cause damage to the surroundings. For example, conventional nozzles produce dense fog at 175 gpm which blows out the fire and, in most cases, causes extensive damage due to the high pressure of the extinguishing material. In contrast, the mist head of the present invention produces a mist output in the range of preferably 8-12 gallons per minute, thereby preventing damage to the surroundings.

A firefighting nozzle/tool. The mist head has five mist nozzle tips: one at each corner of the head, and one nozzle tip at the center of the mist head. The tips at the corners are set at an angle of 45 degrees, while the central nozzle tip is perpendicular to the horizontal plane of the mist head. Note that the corner nozzle tips are not planar; instead, they point in a direction similar to that of the central nozzle. Each corner nozzle tip has an output of 2 gallons per minute (gpm), while the central nozzle tip has an output of 4 gpm.

The mist head is attached to a wand, which preferably includes a handle to facilitate carrying the tool. The handle is at about 8 inches from one extremity of the wand. The firefighting tool is preferably activated by a ball valve means located at one extremity of the wand. That wand is attached to a hose line. The wand and handle are milled and made of a lightweight material which is fireproof, and does not become excessively hot. In one test, the firefighting tool was placed in 1200°F heat, with no damage incurred by the tool. The handle and wand are preferably made of anodized aluminum. The tool can be easily and quickly assembled by attaching the handle to the mist head (which already has the nozzle tips attached). This equipment can be installed as a fixed system or used as a piece of lightweight, portable firefighting equipment.

The firefighting tool can operate effectively with low or ambient water pressure. In one experimental test, the firefighting tool was shown to operate effectively using water at a pressure of about 60 psi or less, although the tool will primarily operate at conventional water pressures of 100 psi – 120 psi.
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1964- Log #CP1
(Entire Document)

**Submitter:** Technical Committee on Fire Hose,

**Recommendation:** Review entire document to: 1) Update any extracted material by preparing separate proposals to do so, and 2) review and update references to other organizations documents, by preparing proposal(s) as required.

**Substantiation:** To conform to the NFPA Regulations Governing Committee Projects.

1964- Log #4
(Chapter 2)

**Submitter:** Jim Glatts, FireOne

**Recommendation:** Revise text to read as follows:


**Substantiation:** Updates referenced publications.

1964- Log #3
(A.5.1)

**Submitter:** Jim Glatts, FireOne

**Recommendation:** Delete text to read as follows:

- The nozzle and the hose with which it is used should be carefully matched. The pressure rating on the nozzle should be at least five times the service test pressure of the corresponding hose so that the hose will fail before the nozzle does.

**Substantiation:** This paragraph is wrong. Any reference to use of nozzles and hose should be published in NFPA 1962 which covers use of hose and nozzles. The five times hose service test pressure is wrong.