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Subject 246

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December 20, 1995

REQUEST FOR COMMENTS ON PROPOSALS

Please provide the following:

1. Your comments concerning the proposed requirements; and
2. Your comments concerning the proposed effective date, should the proposals be adopted.

Written comments should be sent to the attention of Deborah Prince at UL's Research Triangle Park office, 12 Laboratory Drive, Research Triangle Park, NC 27709-3995. Please reference all correspondence to Subject 246.

All comments should be sent by January 31, 1996.

Unless specifically requested to do so, UL will not acknowledge comments indicating concurrence with these proposals.

UNDERWRITERS LABORATORIES INC.



DEBORAH PRINCE
Project Engineer
Standards Department
RESEARCH TRIANGLE PARK OFFICE
(919) 549-1460

SR:SMB

246BUL001

REVIEWED BY:



GEORGE E. LAVERICK (Ext. 42665)
Engineering Group Leader
Engineering Services 411A
NORTHBROOK OFFICE
(708) 272-8800

PROPOSED REQUIREMENTS ARE OF A TENTATIVE AND EARLY NATURE AND ARE FOR REVIEW AND COMMENT ONLY. CURRENT REQUIREMENTS ARE TO BE USED TO JUDGE A PRODUCT UNTIL THESE REQUIREMENTS ARE PUBLISHED IN FINAL FORM.

A P P E N D I X A

PROPOSED REQUIREMENTS AND PROPOSED EFFECTIVE DATE FOR THE SEVENTH EDITION OF THE STANDARD FOR HYDRANTS FOR FIRE-PROTECTION SERVICE, UL 246

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~. Proposed new requirements are identified by (NEW). In the case of extensively revised paragraphs, the original text is identified by (CURRENT) and is ~~lined-out~~, followed by the proposed text identified by (PROPOSED). A paragraph that is proposed to be deleted is identified by (DELETED) and is shown ~~lined-out~~.

1. 10-DAY MOIST AMMONIA AIR STRESS CRACKING TEST

RATIONALE

UL's March 4, 1994 Subject 246 bulletin proposed replacing the mercurous nitrate test with a 10-day moist ammonia-air stress cracking test. Based on review of comments to the bulletin and after further study, UL has concluded that (1) the aqueous ammonia used for the test should have a specific gravity of 0.94 rather than the 0.90, as the 0.94 solution is more likely to produce test results consistent with results obtained when testing with mercurous nitrate, and (2) cracking is considered acceptable provided that the part demonstrates acceptable performance when subjected to the leakage test and operating torque test, following exposure to the moist ammonia-air mixture. Cracking is to be observed using 25X magnification.

IMPACT

If adopted, this proposal will require a review and possible retest of currently Listed products to verify compliance with the new requirements. Products currently Listed that do not comply with the new requirements would need to be modified as appropriate by the effective date for the Listing to continue beyond that date.

PROPOSAL

(CURRENT)

20 Mercurous-Nitrate Immersion Test

~~20.1 Nozzles or components made from copper alloys containing more than 15 percent zinc shall withstand total immersion for 30 minutes, without cracking, in an aqueous mercurous nitrate solution containing 10 grams of mercurous nitrate and 10 milliliters of nitric acid (specific gravity 1.42) per liter of solution.~~

~~20.2 Instructions for preparation of solutions and procedures for replenishment together with descriptions for cleaning and degreasing of the samples are covered in the Mercurous Nitrate Test for Copper and Copper Alloys, ASTM B154.~~

~~20.3 The test sample shall be subjected to the physical stresses intended to be imposed on or within the sample as the result of assembly with a coupling. Such stresses shall be applied to the sample prior to and be effective during the test. A sample is to be connected to an appropriate male coupling and tightened to the minimum torque necessary to produce a leaktight assembly.~~

~~20.4 CAUTION Testing with mercury is a definite health hazard and it is recommended that equipment be provided for the removal of mercury vapor produced in volatilization. Rubber gloves shall be used during testing.~~

~~20.5 Threaded openings are to be fitted with brass plugs or fittings assembled as specified in 20.6. Other threaded or bolted parts are to be tightened to the degree normally found acceptable to produce a leak tight assembly.~~

~~20.6 Threaded openings of the samples are to be fitted with plugs or fittings, exerting the torque designated in Table 20.1. Male threads are to be lubricated with two drops of SAE No. 10 machine oil prior to assembly.~~

(PROPOSED)

20 10-Day Moist Ammonia Air Stress Cracking Test

20.1 After being subjected to the conditions described in 20.2 – 20.4, a brass part containing more than 15 percent zinc when examined using 25X magnification shall:

- a) Show no evidence of cracking; or
- b) Comply with the Leakage Test, Section 23, and the Operating Torque Test, Section 26, if there is evidence of cracking.

Revised 20.1 effective (18 months after date of publication)

20.2 Each test sample is to be subjected to the physical stresses normally imposed on or within a part as the result of assembly with other components. Such stresses are to be applied to the sample prior to and maintained during the test. Samples with threads, intended to be used for installing the product in the field, are to have the threads engaged and tightened to the torque specified in Table 20.1. Teflon tape or pipe compound are not to be used on the threads.

Revised 20.2 effective (18 months after date of publication)

20.3 Three samples are to be degreased and then continuously exposed in a set position for ten days to a moist ammonia-air mixture maintained in a glass chamber approximately 12 by 12 by 12 inches (305 by 305 by 305 mm) having a glass cover.

Revised 20.3 effective (18 months after date of publication)

20.4 Approximately 600 ml of aqueous ammonia having a specific gravity of 0.94 is to be maintained at the bottom of the glass chamber below the samples. The samples are to be positioned 1-1/2 in. (38.1 mm) above the aqueous ammonia solution and supported by an inert tray. The moist ammonia-air mixture in the chamber is to be maintained at atmospheric pressure and at a temperature of 93°F (34°C).

Revised 20.4 effective (18 months after date of publication)

APPENDIX B**DESIGNATED RESPONSIBILITY FOR UL
PRODUCT CATEGORY
HBOR, HYDRANTS**

The individuals shown in the following table are involved with the investigation of products covered under the subject category. The Primary Designated Engineer (**shown in UPPERCASE letters**) coordinates the establishment and uniform interpretation of UL requirements applicable to the product category. The Designated Engineers (**shown in lowercase letters**) work with the Primary Designated Engineer to interpret requirements and maintain standards.

Should you have questions regarding the interpretation of the requirements proposed in this bulletin or any adopted requirements that affect your product, you are encouraged to contact the individual at the office to which you normally submit your products.

The Responsible Department Manager for the subject category is William Metes at UL's Northbrook office. The Responsible Department Manager oversees the significant interpretations made by the Primary Designated Engineer and arbitrates any differences regarding interpretation of UL requirements.

CCN	Office/Subsidiary	Responsible Engineer	Extension
HBOR	Northbrook	EMIL MISICHKO	42036



Underwriters Laboratories Inc.®

Subjects 246 (258, 262,
401, 668, 1091, 1468,
1486, 1739)

333 Pfingsten Road
Northbrook, IL 60062-2096
March 4, 1994

(In reply, refer to Subject 246)

TO: Fire Council of Underwriters Laboratories Inc.,
Subscribers to UL's Standard Service for the Standards
and Outline Enumerated in Appendix A,
and
Others Interested

SUBJECT: Request for Comments on Proposed Requirements for the
Standards and Outline as Enumerated in Appendix A; and
PROPOSED EFFECTIVE DATES

SUMMARY OF TOPICS

This bulletin proposes the following change in requirements:

Proposes to revise the Standards and Outline enumerated in
Appendix A to delete the Mercurous Nitrate Immersion Test and
add a 10-Day Moist Ammonia Air Stress Cracking Test.

COMMENTS ON THIS PROPOSAL DUE: April 4, 1994

Attached for your review and comments are proposed requirements
for the Standards and Outline enumerated in Appendix A.

Please note that proposed requirements are of a tentative and
early nature and are for review and comment only. Current
requirements are to be used to judge a product until these
requirements are published in final form.

Questions regarding interpretation of requirements should be
directed to the responsible UL staff. An Appendix designating
the responsible UL staff for each Standard or Outline follows
each related Appendix as "-1." For example, Appendix B-1 relates
to Appendix B, Appendix C-1 relates to Appendix C, and so on.

A not-for-profit organization
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committed to quality service

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March 4, 1994

PROPOSED EFFECTIVE DATES

Since the proposed requirements will not necessitate a review or additional testing of currently Listed products, UL proposes that these requirements become effective upon publication.

RATIONALE

Parts made of brass alloys containing more than 15 percent zinc are subject to applied and residual stresses during forming that may result in cracking or delamination of the part in end-use applications. This cracking or delamination can occur at room temperature and in other common environments. To determine that such parts can be considered acceptable for end-use applications, they are subjected to a mercurous nitrate immersion test. During this test, parts are immersed in a solution containing mercury, water, and nitric acid for 30 minutes.

The disposal of the mercurous nitrate waste material (coated parts and solution) in an environmentally-sound manner has become increasingly difficult. Also there are potential health risks involved if the test is not conducted according to specific procedures.

After consideration of these difficulties, UL has decided to discontinue use of the mercurous nitrate immersion test. In searching for an acceptable alternate test, UL obtained information from ASTM and conducted evaluation tests to find a test that would provide results comparable to those obtained using the existing mercurous nitrate immersion test. As a result of these efforts, UL has determined that a 10-day moist ammonia air stress cracking test would be a suitable replacement. Accordingly, UL proposes to eliminate the Mercurous Nitrate Immersion Test and replace it with a 10-day Moist Ammonia Air Stress Cracking Test.

IMPACT

This proposal, if adopted, will not require a review, retest, or modification of presently Listed equipment.

Subject 246

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March 4, 1994

Request for Comments on Proposals

Please provide the following:

1. Your comments concerning the proposed requirements; and
2. Your comments concerning the proposed effective dates, should the proposals be adopted.

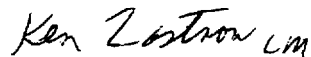
Written comments should be sent to the attention of C. H. McCall at UL's Northbrook office, 333 Pfingsten Road, Northbrook, IL 60062-2096. Please reference all correspondence to Subject 246.

All comments should be sent by April 4, 1994.

Unless specifically requested to do otherwise, UL will not acknowledge comments indicating concurrence with these proposals.

UNDERWRITERS LABORATORIES INC.

REVIEWED BY:



C. H. McCALL (Ext. 42320)
Senior Engineering Associate
Standards Department

KEN ZASTROW (Ext. 42284)
Senior Project Engineer
Engineering Services 411A

SR:JTM

246BUL.P94

Subject 246

March, 1994

APPENDIX A

LIST OF STANDARDS AND OUTLINE PROPOSED TO BE REVISED
AND APPENDICES IN WHICH THE PROPOSED REQUIREMENTS ARE LOCATED

STANDARDS:

<u>Document Number</u>	<u>Appendix</u>	<u>Document</u>
UL 246	B	Seventh Edition of the Standard for Hydrants for Fire-Protection Service
UL 262	C	Sixth Edition of the Standard for Gate Valves for Fire-Protection Service
UL 401	D	Third Edition of the Standard for Portable Spray Hose Nozzles for Fire Protection Service
UL 668	E	Eighth Edition of the Standard for Hose Valves for Fire Protection Service
UL 1091	F	Fourth Edition of the Standard for Butterfly Valves for Fire Protection Service
UL 1468	G	Second Edition of the Standard for Direct-Acting Pressure-Reducing and Pressure-Control Valves for Fire-Protection Service
UL 1486	H	Second Edition of the Standard for Quick Opening Devices for Dry Pipe Valves for Fire-Protection Service
UL 1739	I	Second Edition of the Standard for Pilot-Operated Pressure-Control Valves for Fire-Protection Service

OUTLINE:

<u>Document Number</u>	<u>Appendix</u>	<u>Document</u>
Subject 258	J	Shutoff Valves for Trim and Drain Purposes
246BAA.P94		

Subject 246

March, 1994

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A P P E N D I X B

PROPOSED REQUIREMENTS AND PROPOSED EFFECTIVE DATES FOR THE SEVENTH EDITION OF THE STANDARD FOR HYDRANTS FOR FIRE-PROTECTION SERVICE UL 246

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~. Proposed new requirements are identified by (NEW). A paragraph that is proposed to be deleted is identified by (DELETED) and is shown ~~lined-out~~.

246BAB.P94

PROPOSAL

19 Metallic Materials

19.1 All parts of a hydrant made of a copper alloy containing more than 15 percent zinc shall withstand, without cracking, the ~~Mercurous Nitrate Immersion Test, see Section 20~~ 10-Day Moist Ammonia Air Stress Cracking Test, see Section 19A.

(NEW)

19A 10-Day Moist Ammonia Air Stress Cracking Test

19A.1 After being tested as described in 19A.2 – 19A.4, a brass part containing more than 15 percent zinc shall show no evidence of cracking or delamination when examined using 25x magnification.

19A.1 added (date of publication)

19A.2 Each test sample is to be subjected to the physical stresses normally imposed on or within a part as the result of assembly with other components. Such stresses are to be applied to the sample prior to and be effective during the test.

19A.2 added (date of publication)

19A.3 Three samples are to be degreased and then continuously exposed in a set position for ten days to a moist ammonia-air mixture maintained in a glass chamber approximately 12 by 12 by 12 inches (305 by 305 by 305 mm) having a glass cover.

19A.3 added (date of publication)

19A.4 Approximately 600 ml of aqueous ammonia having a specific gravity of 0.90 is to be maintained at the bottom of the glass chamber below the samples. The samples are to be positioned 1-1/2 inches (38.1 mm) above the aqueous ammonia solution and supported by an inert tray. The moist ammonia air mixture in the chamber is to be maintained at atmospheric pressure with the temperature constant at approximately 93°F (34°C).

19A.4 added (date of publication)

(DELETED)

20 Mercurous-Nitrate Immersion Test

Section 20 deleted (date of publication)

~~20.1 Nozzles or components made from copper alloys containing more than 15 percent zinc shall withstand total immersion for 30 minutes, without cracking, in an aqueous mercurous nitrate solution containing 10 grams of mercurous nitrate and 10 milliliters of nitric acid (specific gravity 1.42) per liter of solution.~~

~~20.2 Instructions for preparation of solutions and procedures for replenishment together with descriptions for cleaning and degreasing of the samples are covered in the Mercurous Nitrate Test for Copper and Copper Alloys, ASTM B154.~~

~~20.3 The test sample shall be subjected to the physical stresses intended to be imposed on or within the sample as the result of assembly with a coupling. Such stresses shall be applied to the sample prior to and be effective during the test. A sample is to be connected to an appropriate male coupling and tightened to the minimum torque necessary to produce a leaktight assembly.~~

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~~20.4 CAUTION Testing with mercury is a definite health hazard and it is recommended that equipment be provided for the removal of mercury vapor produced in volatilization. Rubber gloves shall be used during testing.~~

~~20.5 Threaded openings are to be fitted with brass plugs or fittings assembled as specified in 20.6. Other threaded or bolted parts are to be tightened to the degree normally found acceptable to produce a leak tight assembly.~~

~~20.6 Threaded openings of the samples are to be fitted with plugs or fittings, exerting the torque designated in Table 20.1. Male threads are to be lubricated with two drops of SAE No. 10 machine oil prior to assembly.~~

Table 20.1
Torque requirements for pipe connections

Pipe size, inches	Torque, pound-inches (N·m)
2-1/2	1750 (198)
3	1800 (203)

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March, 1994

**APPENDIX B-1
Designated Responsibility for UL
Product Category HBOR
Hydrants**

The following individual is involved with the investigation of products covered under the subject category. The Primary Designated Engineer (shown in UPPERCASE letters) coordinates the establishment and uniform interpretation of UL requirements applicable to the product category.

Should you have questions regarding the interpretation of the requirements proposed in this bulletin or any adopted requirements that affect your product, you are encouraged to contact the individual at the office to which you normally submit your products.

EMIL MISICHKO — at UL's Northbrook Office (Ext. 42036)

Dwayne Sloan — at UL's RTP Office (Ext. 1676)

The Responsible Department Manager for the subject category is Bill Metes at UL's Northbrook Office. The Responsible Department Manager oversees the significant interpretations made by the Primary Designated Engineer and arbitrates any differences regarding interpretation of UL requirements.

246BAB1.P94

Subject 262

March, 1994

PROPOSED REQUIREMENTS ARE OF A TENTATIVE AND EARLY NATURE AND ARE FOR REVIEW AND COMMENT ONLY. CURRENT REQUIREMENTS ARE TO BE USED TO JUDGE A PRODUCT UNTIL THESE REQUIREMENTS ARE PUBLISHED IN FINAL FORM.

A P P E N D I X C

PROPOSED REQUIREMENTS AND PROPOSED EFFECTIVE DATES FOR THE SIXTH EDITION OF THE STANDARD FOR GATE VALVES FOR FIRE-PROTECTION SERVICE UL 262

Proposed new requirements are identified by (NEW). A paragraph that is proposed to be deleted is identified by (DELETED) and is shown ~~lined-out~~.

262BAC.P94

Subject 262

-C2-

March, 1994

PROPOSAL

(DELETED)

15A. Mercurous-Nitrate Immersion Test**Section 15A deleted (date of publication)**

~~15A.1 A part made of brass containing more than 15 percent zinc shall withstand total immersion in an aqueous mercurous nitrate solution containing 10 grams of mercurous nitrate and 10 milliliters of nitric acid (specific gravity 1.42) per liter of solution for 30 minutes without cracking.~~

~~15A.2 Solutions are to be prepared and replenished and samples are to be cleaned and degreased in accordance with the Standard Method of Mercurous Nitrate Test for Copper and Copper Alloys, ASTM B154-87.~~

~~15A.3 The test is to be conducted on a sample of the finished valve component. During this test, the sample is to be subjected to the physical stresses imposed on or within the sample as the result of assembly with other components of a standpipe system, or with supply piping of a sprinkler system.~~

~~15A.4 CAUTION — Testing with mercury is a health hazard, both in the form of mercurous nitrate crystals and the form of vapor produced by volatilization. Equipment for the removal of mercury vapor produced in volatilization should be provided. Rubber gloves must be used during testing.~~

(NEW SECTION)

15B. 10-Day Moist Ammonia Air Stress Cracking Test

15B.1 After being tested as described in paragraph 15B.2 — 15B.4, a brass part containing more than 15 percent zinc shall show no evidence of cracking or delamination when examined using 25x magnification.

Paragraph 15B.1 added (date of publication)

15B.2 Each test sample is to be subjected to the physical stresses normally imposed on or within a part as the result of assembly with other components. Such stresses are to be applied to the sample prior to and be effective during the test.

Paragraph 15B.2 added (date of publication)

15B.3 Three samples are to be degreased and then continuously exposed in a set position for ten days to a moist ammonia-air mixture maintained in a glass chamber approximately 12 by 12 by 12 inches (305 by 305 by 305 mm) having a glass cover.

Paragraph 15B.3 added (date of publication)

Subject 262

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March, 1994

15B.4 Approximately 600 ml of aqueous ammonia having a specific gravity of 0.90 is to be maintained at the bottom of the glass chamber below the samples. The samples are to be positioned 1-1/2 inches (38.1 mm) above the aqueous ammonia solution and supported by an inert tray. The moist ammonia air mixture in the chamber is to be maintained at atmospheric pressure with the temperature constant at approximately 93°F (34°C).

Paragraph 15B.4 added (date of publication)

Subject 262

March, 1994

**APPENDIX C-1
Designated Responsibility for UL
Product Category HMRZ
Fire Main Equipment, Gate Valves**

The following individuals are involved with the investigation of products covered under the subject category. The Primary Designated Engineer (shown in UPPERCASE letters) coordinates the establishment and uniform interpretation of UL requirements applicable to the product category. The Designated Engineers (shown in lowercase letters) work with the Primary Designated Engineer to interpret requirements and maintain standards.

Should you have questions regarding the interpretation of the requirements proposed in this bulletin or any adopted requirements that affect your product, you are encouraged to contact the individual at the office to which you normally submit your products.

KEN ZASTROW — at UL's Northbrook Office (Ext. 42284)
Eugene Wirth — at UL's Santa Clara Office (Ext. 2294)
Steve Corrado — at UL's RTP Office (Ext. 1433)

The Responsible Department Manager for the subject category is Bill Metes at UL's Northbrook Office. The Responsible Department Manager oversees the significant interpretations made by the Primary Designated Engineer and arbitrates any differences regarding interpretation of UL requirements.

262BAC1.P94

Subject 401

March, 1994

PROPOSED REQUIREMENTS ARE
OF A TENTATIVE AND EARLY
NATURE AND ARE FOR REVIEW
AND COMMENT ONLY. CURRENT
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A P P E N D I X D

PROPOSED REQUIREMENTS AND PROPOSED EFFECTIVE DATES FOR THE THIRD EDITION OF THE STANDARD FOR PORTABLE SPRAY HOSE NOZZLES FOR FIRE PROTECTION SERVICE UL 401

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~. Proposed new requirements are identified by (NEW). A paragraph that is proposed to be deleted is identified by (DELETED) and is shown ~~lined-out~~.

401BAD.P94

Subject 401

-D2-

March, 1994

PROPOSED

5.3 A copper-alloy part containing more than 15 percent zinc shall comply with the requirements in the Mercurous Nitrate Immersion Test, Section 22 10-Day Moist Ammonia Air Stress Cracking Test, Section 22A.

5.3 revised (date of publication)

(DELETED)

22 Mercurous-Nitrate Immersion Test

Section 22 deleted (date of publication)

~~22.1 A nozzle or components made from copper alloys containing more than 15 percent zinc shall withstand total immersion for 30 minutes, without cracking, in an aqueous mercurous nitrate solution containing 10 grams of mercurous nitrate and 10 milliliters of nitric acid (specific gravity 1.42) per liter of solution.~~

~~22.2 Instructions for preparation of solutions and procedures for replenishment together with descriptions for cleaning and degreasing of the samples are covered in the Mercurous Nitrate Test for Copper and Copper Alloys, ASTM B154-92.~~

~~22.3 The test sample is to be subjected to the physical stresses intended to be imposed on or within the sample as the result of assembly with a coupling. Such stresses are to be applied to the sample prior to and be effective during the test. A sample is to be connected to an appropriate male coupling and tightened to the minimum torque necessary to produce a leaktight assembly.~~

~~22.4 CAUTION Testing with mercury is a health hazard and it is recommended that equipment be provided for the removal of mercury vapor produced in volatilization. Rubber gloves should be used during testing.~~

(NEW SECTION)

22A 10-Day Moist Ammonia Air Stress Cracking Test

22A.1 After being tested as described in 22A.2 – 22A.4, a brass part containing more than 15 percent zinc shall show no evidence of cracking or delamination when examined using 25x magnification.

22A.1 added (date of publication)

22A.2 Each test sample is to be subjected to the physical stresses normally imposed on or within a part as the result of assembly with other components. Such stresses are to be applied to the sample prior to and be effective during the test.

22A.2 added (date of publication)

22A.3 Three samples are to be degreased and then continuously exposed in a set position for ten days to a moist ammonia-air mixture maintained in a glass chamber approximately 12 by 12 by 12 inches (305 by 305 by 305 mm) having a glass cover.

22A.3 added (date of publication)

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March, 1994

22A.4 Approximately 600 ml of aqueous ammonia having a specific gravity of 0.90 is to be maintained at the bottom of the glass chamber below the samples. The samples are to be positioned 1-1/2 inches (38.1 mm) above the aqueous ammonia solution and supported by an inert tray. The moist ammonia air mixture in the chamber is to be maintained at atmospheric pressure with the temperature constant at approximately 93°F (34°C).

22A.4 added (date of publication)

Subject 401

March, 1994

**APPENDIX D-1
Designated Responsibility for UL
Product Category VUFZ
Standpipe Equipment, Nozzles, Spray Hose, Portable**

The following individual is involved with the investigation of products covered under the subject category. The Primary Designated Engineer (shown in UPPERCASE letters) coordinates the establishment and uniform interpretation of UL requirements applicable to the product category.

Should you have questions regarding the interpretation of the requirements proposed in this bulletin or any adopted requirements that affect your product, you are encouraged to contact the individual at the office to which you normally submit your products.

GEORGE LAVERICK — at UL's Northbrook Office (Ext. 42665)

The Responsible Department Manager for the subject category is Bill Metes at UL's Northbrook Office. The Responsible Department Manager oversees the significant interpretations made by the Primary Designated Engineer and arbitrates any differences regarding interpretation of UL requirements.

401BAD1.P94

Subject 668

March, 1994

PROPOSED REQUIREMENTS ARE
OF A TENTATIVE AND EARLY
NATURE AND ARE FOR REVIEW
AND COMMENT ONLY. CURRENT
REQUIREMENTS ARE TO BE USED
TO JUDGE A PRODUCT UNTIL
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PUBLISHED IN FINAL FORM.

A P P E N D I X E

PROPOSED REQUIREMENTS AND PROPOSED EFFECTIVE DATES FOR THE EIGHTH EDITION OF THE STANDARD FOR HOSE VALVES FOR FIRE PROTECTION SERVICE UL 668

Proposed new requirements are identified by (NEW). A paragraph that is proposed to be deleted is identified by (DELETED) and is shown ~~lined-out~~.

668BAE.P94