

2010 Annual Revision Cycle

Report on Proposals

A compilation of NFPA® Technical Committee Reports on Proposals for public review and comment

Public Comment Deadline: September 4, 2009

NOTE: The proposed NFPA documents addressed in this Report on Proposals (ROP) and in a follow-up Report on Comments (ROC) will only be presented for action when proper Amending Motions have been submitted to the NFPA by the deadline of April 9, 2010. The June 2010 NFPA Conference & Expo will be held June 7–10, 2010 at the Mandalay Bay Convention Center, Las Vegas, NV. During the meeting, the Association Technical Meeting (Tech Session) will be held June 9–10, 2010. Documents that receive no motions will not be presented at the meeting and instead will be forwarded directly to the Standards Council for action on issuance. For more information on the rules and for up-to-date information on schedules and deadlines for processing NFPA documents, check the NFPA website (www.nfpa.org) or contact NFPA Standards Administration.



National Fire Protection Association®

1 BATTERYMARCH PARK, QUINCY, MA 02169-7471

Information on NFPA Codes and Standards Development

I. Applicable Regulations. The primary rules governing the processing of NFPA documents (codes, standards, recommended practices, and guides) are the *NFPA Regulations Governing Committee Projects (Regs)*. Other applicable rules include *NFPA Bylaws*, *NFPA Technical Meeting Convention Rules*, *NFPA Guide for the Conduct of Participants in the NFPA Standards Development Process*, and the *NFPA Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council*. Most of these rules and regulations are contained in the *NFPA Directory*. For copies of the *Directory*, contact Codes and Standards Administration at NFPA Headquarters; all these documents are also available on the NFPA website at “www.nfpa.org.”

The following is general information on the NFPA process. All participants, however, should refer to the actual rules and regulations for a full understanding of this process and for the criteria that govern participation.

II. Technical Committee Report. The Technical Committee Report is defined as “the Report of the Technical Committee and Technical Correlating Committee (if any) on a document. A Technical Committee Report consists of the Report on Proposals (ROP), as modified by the Report on Comments (ROC), published by the Association.”

III. Step 1: Report on Proposals (ROP). The ROP is defined as “a report to the Association on the actions taken by Technical Committees and/or Technical Correlating Committees, accompanied by a ballot statement and one or more proposals on text for a new document or to amend an existing document.” Any objection to an action in the ROP must be raised through the filing of an appropriate Comment for consideration in the ROC or the objection will be considered resolved.

IV. Step 2: Report on Comments (ROC). The ROC is defined as “a report to the Association on the actions taken by Technical Committees and/or Technical Correlating Committees accompanied by a ballot statement and one or more comments resulting from public review of the Report on Proposals (ROP).” The ROP and the ROC together constitute the Technical Committee Report. Any outstanding objection following the ROC must be raised through an appropriate Amending Motion at the Association Technical Meeting or the objection will be considered resolved.

V. Step 3a: Action at Association Technical Meeting. Following the publication of the ROC, there is a period during which those wishing to make proper Amending Motions on the Technical Committee Reports must signal their intention by submitting a Notice of Intent to Make a Motion. Documents that receive notice of proper Amending Motions (Certified Amending Motions) will be presented for action at the annual June Association Technical Meeting. At the meeting, the NFPA membership can consider and act on these Certified Amending Motions as well as Follow-up Amending Motions, that is, motions that become necessary as a result of a previous successful Amending Motion. (See 4.6.2 through 4.6.9 of *Regs* for a summary of the available Amending Motions and who may make them.) Any outstanding objection following action at an Association Technical Meeting (and any further Technical Committee consideration following successful Amending Motions, see *Regs* at 4.7) must be raised through an appeal to the Standards Council or it will be considered to be resolved.

VI. Step 3b: Documents Forwarded Directly to the Council. Where no Notice of Intent to Make a Motion (NITMAM) is received and certified in accordance with the Technical Meeting Convention Rules, the document is forwarded directly to the Standards Council for action on issuance. Objections are deemed to be resolved for these documents.

VII. Step 4a: Council Appeals. Anyone can appeal to the Standards Council concerning procedural or substantive matters related to the development, content, or issuance of any document of the Association or on matters within the purview of the authority of the Council, as established by the *Bylaws* and as determined by the Board of Directors. Such appeals must be in written form and filed with the Secretary of the Standards Council (see 1.6 of *Regs*). Time constraints for filing an appeal must be in accordance with 1.6.2 of the *Regs*. Objections are deemed to be resolved if not pursued at this level.

VIII. Step 4b: Document Issuance. The Standards Council is the issuer of all documents (see Article 8 of *Bylaws*). The Council acts on the issuance of a document presented for action at an Association Technical Meeting within 75 days from the date of the recommendation from the Association Technical Meeting, unless this period is extended by the Council (see 4.8 of *Regs*). For documents forwarded directly to the Standards Council, the Council acts on the issuance of the document at its next scheduled meeting, or at such other meeting as the Council may determine (see 4.5.6 and 4.8 of *Regs*).

IX. Petitions to the Board of Directors. The Standards Council has been delegated the responsibility for the administration of the codes and standards development process and the issuance of documents. However, where extraordinary circumstances requiring the intervention of the Board of Directors exist, the Board of Directors may take any action necessary to fulfill its obligations to preserve the integrity of the codes and standards development process and to protect the interests of the Association. The rules for petitioning the Board of Directors can be found in the *Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council* and in 1.7 of the *Regs*.

X. For More Information. The program for the Association Technical Meeting (as well as the NFPA website as information becomes available) should be consulted for the date on which each report scheduled for consideration at the meeting will be presented. For copies of the ROP and ROC as well as more information on NFPA rules and for up-to-date information on schedules and deadlines for processing NFPA documents, check the NFPA website (www.nfpa.org) or contact NFPA Codes & Standards Administration at (617-984-7246).

2010 Annual Revision Cycle ROP Contents

by NFPA Numerical Designation

Note: Documents appear in numerical order.

NFPA No.	Type Action	Title	Page No.
25	P	Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems	25-1
30B	P	Code for the Manufacture and Storage of Aerosol Products	30B-1
33	P	Standard for Spray Application Using Flammable or Combustible Materials.....	33-1
34	P	Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids..... To be retitled as Standard for Dipping, Coating, and Printing Processes Using Flammable or Combustible Liquids	34-1
40	P	Standard for the Storage and Handling of Cellulose Nitrate Film.....	40-1
58	P	Liquefied Petroleum Gas Code.....	58-1
73	P	Electrical Inspection Code for Existing Dwellings	73-1
		To be retitled as Standard for Electrical Inspections for Existing Dwellings	
86	P	Standard for Ovens and Furnaces	86-1
87	N	Recommended Practice for Fluid Heaters.....	87-1
88A	P	Standard for Parking Structures	88A-1
96	P	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations	96-1
160	P	Standard for the Use of Flame Effects Before an Audience.....	160-1
303	P	Fire Protection Standard for Marinas and Boatyards	303-1
307	P	Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves	307-1
312	P	Standard for Fire Protection of Vessels During Construction, Conversion, Repair, and Lay-Up	312 -1
502	P	Standard for Road Tunnels, Bridges, and Other Limited Access Highways	502-1
556	N	Guide on Methods for Evaluating Fire Hazard to Occupants of Passenger Road Vehicles.....	556-1
654	P	Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids.....	654-1
780	P	Standard for the Installation of Lightning Protection Systems	780-1
1000	P	Standard for Fire Service Professional Qualifications Accreditation and Certification Systems.....	1000-1
1071	C	Standard for Emergency Vehicle Technician Professional Qualifications	1071-1
1126	P	Standard for the Use of Pyrotechnics Before a Proximate Audience	1126-1
1145	P	Guide for the Use of Class A Foams in Manual Structural Fire Fighting.....	1145-1

TYPES OF ACTION

P Partial Revision **C** Complete Revision **N** New Document **R** Reconfirmation **W** Withdrawal

**2010 Annual Revision Cycle ROP
Committees Reporting**

		Type Action	Page No.
Aerosol Products			
30B	Code for the Manufacture and Storage of Aerosol Products	P	30B-1
Finishing Processes			
33	Standard for Spray Application Using Flammable or Combustible Materials	P	33-1
34	Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids	P	34-1
Forest and Rural Fire Protection			
1145	Guide for the Use of Class A Foams in Manual Structural Fire Fighting	P	1145-1
Garages and Parking Structures			
88A	Standard for Parking Structures	P	88A-1
Handling and Conveying of Dusts, Vapors, and Gases			
654	Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids	P	654-1
Hazard and Risk of Contents and Furnishings			
556	Guide on Methods for Evaluating Fire Hazard to Occupants of Passenger Road Vehicles	N	556-1
Hazardous Chemicals			
40	Standard for the Storage and Handling of Cellulose Nitrate Film	P	40-1
Inspection, Testing, and Maintenance of Water-Based Systems			
25	Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems	P	25-1
Lightning Protection			
780	Standard for the Installation of Lightning Protection Systems	P	780-1
Liquefied Petroleum Gases			
58	Liquefied Petroleum Gas Code	P	58-1
Marinas and Boatyards			
303	Fire Protection Standard for Marinas and Boatyards	P	303-1
Marine Terminals			
307	Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves	P	307-1
National Electrical Code			
Electrical Systems Maintenance			
73	Electrical Inspection Code for Existing Dwellings	P	73-1
Ovens and Furnaces			
86	Standard for Ovens and Furnaces	P	86-1
87	Recommended Practice for Fluid Heaters	N	87-1
Professional Qualifications			
Accreditation and Certification to Fire Service Professional Qualifications			
1000	Standard for Fire Service Professional Qualifications Accreditation and Certification Systems	P	1000-1
Emergency Vehicle Mechanic Technicians Professional Qualifications			
1071	Standard for Emergency Vehicle Technician Professional Qualifications	C	1071-1
Road Tunnel and Highway Fire Protection			
502	Standard for Road Tunnels, Bridges, and Other Limited Access Highways	P	502-1
Shipbuilding, Repair, and Lay-Up			
312	Standard for Fire Protection of Vessels During Construction, Conversion, Repair, and Lay-Up	P	312-1
Special Effects			
160	Standard for the Use of Flame Effects Before an Audience	P	160-1
1126	Standard for the Use of Pyrotechnics Before a Proximate Audience	P	1126-1
Venting Systems for Cooking Appliances			
96	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations	P	96-1

COMMITTEE MEMBER CLASSIFICATIONS^{1,2,3,4}

The following classifications apply to Committee members and represent their principal interest in the activity of the Committee.

1. M Manufacturer: A representative of a maker or marketer of a product, assembly, or system, or portion thereof, that is affected by the standard.
2. U User: A representative of an entity that is subject to the provisions of the standard or that voluntarily uses the standard.
3. IM Installer/Maintainer: A representative of an entity that is in the business of installing or maintaining a product, assembly, or system affected by the standard.
4. L Labor: A labor representative or employee concerned with safety in the workplace.
5. RT Applied Research/Testing Laboratory: A representative of an independent testing laboratory or independent applied research organization that promulgates and/or enforces standards.
6. E Enforcing Authority: A representative of an agency or an organization that promulgates and/or enforces standards.
7. I Insurance: A representative of an insurance company, broker, agent, bureau, or inspection agency.
8. C Consumer: A person who is or represents the ultimate purchaser of a product, system, or service affected by the standard, but who is not included in (2).
9. SE Special Expert: A person not representing (1) through (8) and who has special expertise in the scope of the standard or portion thereof.

NOTE 1: "Standard" connotes code, standard, recommended practice, or guide.

NOTE 2: A representative includes an employee.

NOTE 3: While these classifications will be used by the Standards Council to achieve a balance for Technical Committees, the Standards Council may determine that new classifications of member or unique interests need representation in order to foster the best possible Committee deliberations on any project. In this connection, the Standards Council may make such appointments as it deems appropriate in the public interest, such as the classification of "Utilities" in the National Electrical Code Committee.

NOTE 4: Representatives of subsidiaries of any group are generally considered to have the same classification as the parent organization.

**FORM FOR COMMENT ON NFPA REPORT ON PROPOSALS
2010 ANNUAL REVISION CYCLE
FINAL DATE FOR RECEIPT OF COMMENTS: 5:00 pm EDST, September 4, 2009**

For further information on the standards-making process, please contact the Codes and Standards Administration at 617-984-7249 or visit www.nfpa.org/codes.

For technical assistance, please call NFPA at 1-800-344-3555.

FOR OFFICE USE ONLY

Log #: _____

Date Rec'd: _____

Please indicate in which format you wish to receive your ROP/ROC electronic paper download
(Note: If choosing the download option, you must view the ROP/ROC from our website; no copy will be sent to you.)

Date 8/1/200X Name John B. Smith Tel. No. 253-555-1234

Company _____ Email _____

Street Address 9 Seattle St. City Tacoma State WA Zip 98402

***If you wish to receive a hard copy, a street address MUST be provided. Deliveries cannot be made to PO boxes.

Please indicate organization represented (if any) Fire Marshals Assn. of North America

1. (a) NFPA Document Title National Fire Alarm Code NFPA No. & Year NFPA 72, 200X ed.

(b) Section/Paragraph 4.4.1.1

2. Comment on Proposal No. (from ROP): 72-7

3. Comment Recommends (check one): new text revised text deleted text

4. Comment (include proposed new or revised wording, or identification of wording to be deleted): [Note: Proposed text should be in legislative format; i.e., use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (~~deleted wording~~).]

Delete exception.

5. **Statement of Problem and Substantiation for Comment:** (Note: State the problem that would be resolved by your recommendation; give the specific reason for your Comment, including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

A properly installed and maintained system should be free of ground faults. The occurrence of one or more ground faults should be required to cause a 'trouble' signal because it indicates a condition that could contribute to future malfunction of the system. Ground fault protection has been widely available on these systems for years and its cost is negligible. Requiring it on all systems will promote better installations, maintenance and reliability.

6. Copyright Assignment

(a) I am the author of the text or other material (such as illustrations, graphs) proposed in the Comment.

(b) Some or all of the text or other material proposed in this Comment was not authored by me. Its source is as follows: (please identify which material and provide complete information on its source)

I hereby grant and assign to the NFPA all and full rights in copyright in this Comment and understand that I acquire no rights in any publication of NFPA in which this Comment in this or another similar or analogous form is used. Except to the extent that I do not have authority to make an assignment in materials that I have identified in (b) above, I hereby warrant that I am the author of this Comment and that I have full power and authority to enter into this assignment.

Signature (Required) _____

PLEASE USE SEPARATE FORM FOR EACH COMMENT

Mail to: Secretary, Standards Council · National Fire Protection Association
1 Batterymarch Park · Quincy, MA 02169-7471 OR
Fax to: (617) 770-3500 OR Email to: proposals_comments@nfpa.org

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2010 ANNUAL REVISION CYCLE
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FOR OFFICE USE ONLY

Log #: _____

Date Rec'd: _____

Please indicate in which format you wish to receive your ROP/ROC electronic paper download
(Note: If choosing the download option, you must view the ROP/ROC from our website; no copy will be sent to you.)

Date _____ Name _____ Tel. No. _____

Company _____ Email _____

Street Address _____ City _____ State _____ Zip _____

*****If you wish to receive a hard copy, a street address MUST be provided. Deliveries cannot be made to PO boxes.**

Please indicate organization represented (if any) _____

1. (a) NFPA Document Title _____ NFPA No. & Year _____

(b) Section/Paragraph _____

2. Comment on Proposal No. (from ROP): _____

3. Comment Recommends (check one): new text revised text deleted text

4. Comment (include proposed new or revised wording, or identification of wording to be deleted): [Note: Proposed text should be in legislative format; i.e., use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (~~deleted wording~~).]

5. **Statement of Problem and Substantiation for Comment:** (Note: State the problem that would be resolved by your recommendation; give the specific reason for your Comment, including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

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(a) I am the author of the text or other material (such as illustrations, graphs) proposed in the Comment.

(b) Some or all of the text or other material proposed in this Comment was not authored by me. Its source is as follows: (please identify which material and provide complete information on its source)

I hereby grant and assign to the NFPA all and full rights in copyright in this Comment and understand that I acquire no rights in any publication of NFPA in which this Comment in this or another similar or analogous form is used. Except to the extent that I do not have authority to make an assignment in materials that I have identified in (b) above, I hereby warrant that I am the author of this Comment and that I have full power and authority to enter into this assignment.

Signature (Required) _____

PLEASE USE SEPARATE FORM FOR EACH COMMENT

Mail to: Secretary, Standards Council · National Fire Protection Association
1 Batterymarch Park · Quincy, MA 02169-7471 OR
Fax to: (617) 770-3500 OR Email to: proposals_comments@nfpa.org

Sequence of Events Leading to Issuance of an NFPA Committee Document

Step 1 Call for Proposals

▼ Proposed new document or new edition of an existing document is entered into one of two yearly revision cycles, and a Call for Proposals is published.

Step 2 Report on Proposals (ROP)

▼ Committee meets to act on Proposals, to develop its own Proposals, and to prepare its Report.

▼ Committee votes by written ballot on Proposals. If two-thirds approve, Report goes forward. Lacking two-thirds approval, Report returns to Committee.

▼ Report on Proposals (ROP) is published for public review and comment.

Step 3 Report on Comments (ROC)

▼ Committee meets to act on Public Comments to develop its own Comments, and to prepare its report.

▼ Committee votes by written ballot on Comments. If two-thirds approve, Report goes forward. Lacking two-thirds approval, Report returns to Committee.

▼ Report on Comments (ROC) is published for public review.

Step 4 Association Technical Meeting

▼ "*Notices of intent to make a motion*" are filed, are reviewed, and valid motions are certified for presentation at the Association Technical Meeting. ("Consent Documents" that have no certified motions bypass the Association Technical Meeting and proceed to the Standards Council for issuance.)

▼ NFPA membership meets each June at the Association Technical Meeting and acts on Technical Committee Reports (ROP and ROC) for documents with "certified amending motions."

▼ Committee(s) vote on any amendments to Report approved at NFPA Annual Membership Meeting.

Step 5 Standards Council Issuance

▼ Notification of intent to file an appeal to the Standards Council on Association action must be filed within 20 days of the NFPA Annual Membership Meeting.

▼ Standards Council decides, based on all evidence, whether or not to issue document or to take other action, including hearing any appeals.

The Association Technical Meeting

The process of public input and review does not end with the publication of the ROP and ROC. Following the completion of the Proposal and Comment periods, there is yet a further opportunity for debate and discussion through the Association Technical Meeting that takes place at the NFPA Annual Meeting.

The Association Technical Meeting provides an opportunity for the final Technical Committee Report (i.e., the ROP and ROC) on each proposed new or revised code or standard to be presented to the NFPA membership for the debate and consideration of motions to amend the Report. The specific rules for the types of motions that can be made and who can make them are set forth in NFPA's rules, which should always be consulted by those wishing to bring an issue before the membership at an Association Technical Meeting. The following presents some of the main features of how a Report is handled.

The Filing of a Notice of Intent to Make a Motion. Before making an allowable motion at an Association Technical Meeting, the intended maker of the motion must file, in advance of the session, and within the published deadline, a Notice of Intent to Make a Motion. A Motions Committee appointed by the Standards Council then reviews all notices and certifies all amending motions that are proper. The Motions Committee can also, in consultation with the makers of the motions, clarify the intent of the motions and, in certain circumstances, combine motions that are dependent on each other together so that they can be made in one single motion. A Motions Committee report is then made available in advance of the meeting listing all certified motions. Only these Certified Amending Motions, together with certain allowable Follow-Up Motions (that is, motions that have become necessary as a result of previous successful amending motions) will be allowed at the Association Technical Meeting.

Consent Documents. Often there are codes and standards up for consideration by the membership that will be noncontroversial and no proper Notices of Intent to Make a Motion will be filed. These "Consent Documents" will bypass the Association Technical Meeting and head straight to the Standards Council for issuance. The remaining documents are then forwarded to the Association Technical Meeting for consideration of the NFPA membership.

What Amending Motions Are Allowed. The Technical Committee Reports contain many Proposals and Comments that the Technical Committee has rejected or revised in whole or in part. Actions of the Technical Committee published in the ROP may also eventually be rejected or revised by the Technical Committee during the development of its ROC. The motions allowed by NFPA rules provide the opportunity to propose amendments to the text of a proposed code or standard based on these published Proposals, Comments, and Committee actions. Thus, the list of allowable motions include motions to accept Proposals and Comments in whole or in part as submitted or as modified by a Technical Committee action. Motions are also available to reject an accepted Comment in whole or part. In addition, Motions can be made to return an entire Technical Committee Report or a portion of the Report to the Technical Committee for further study.

The NFPA Annual Meeting, also known as the NFPA Conference & Expo, takes place in June of each year. A second Fall membership meeting was discontinued in 2004, so the NFPA Technical Committee Report Session now runs once each year at the Annual Meeting in June.

Who Can Make Amending Motions. NFPA rules also define those authorized to make amending motions. In many cases, the maker of the motion is limited by NFPA rules to the original submitter of the Proposal or Comment or his or her duly authorized representative. In other cases, such as a Motion to Reject an accepted Comment, or to Return a Technical Committee Report or a portion of a Technical Committee Report for Further Study, anyone can make these motions. For a complete explanation, the NFPA Regs should be consulted.

Action on Motions at the Association Technical Meeting. In order to actually make a Certified Amending Motion at the Association Technical Meeting, the maker of the motion must sign in at least an hour before the session begins. In this way a final list of motions can be set in advance of the session. At the session, each proposed document up for consideration is presented by a motion to adopt the Technical Committee Report on the document. Following each such motion, the presiding officer in charge of the session opens the floor to motions on the document from the final list of Certified Amending Motions followed by any permissible Follow-Up Motions. Debate and voting on each motion proceeds in accordance with NFPA rules. NFPA membership is not required in order to make or speak to a motion, but voting is limited to NFPA members who have joined at least 180 days prior to the Association Technical Meeting and have registered for the meeting. At the close of debate on each motion, voting takes place, and the motion requires a majority vote to carry. In order to amend a Technical Committee Report, successful amending motions must be confirmed by the responsible Technical Committee, which conducts a written ballot on all successful amending motions following the meeting and prior to the document being forwarded to the Standards Council for issuance.

Standards Council Issuance

One of the primary responsibilities of the NFPA Standards Council, as the overseer of the NFPA codes and standards development process, is to act as the official issuer of all NFPA codes and standards. When it convenes to issue NFPA documents, it also hears any appeals related to the document. Appeals are an important part of assuring that all NFPA rules have been followed and that due process and fairness have been upheld throughout the codes and standards development process. The Council considers appeals both in writing and through the conduct of hearings at which all interested parties can participate. It decides appeals based on the entire record of the process as well as all submissions on the appeal. After deciding all appeals related to a document before it, the Council, if appropriate, proceeds to issue the document as an official NFPA code or standard. Subject only to limited review by the NFPA Board of Directors, the decision of the Standards Council is final, and the new NFPA code or standard becomes effective twenty days after Standards Council issuance.

Report of the Committee on

Nonvoting

Special Effects

G. Clark Parkhurst, Jr., *Chair*

Prospect, CT [SE]

Robert Bauer, The Doyle Street Group, CA [IM]
Glenn A. Birket, Birket Engineering, Inc., FL [M]
Jose R. Colon, Connecticut Department of Public Safety, CT [E]
 Rep. International Fire Marshals Association
Steve A. Coman, RES Specialty Pyrotechnics Inc., MN [M]
 Rep. Pyrotechnics Guild International, Inc.
Ettore Contestabile, Natural Resources Canada, Canada [RT]
Randall W. A. Davidson, Risk International & Associates, Inc., CO [SE]
Gregory V. Dumansky, XL Global Asset Protection Services, CA [I]
June M. Fields, Henderson, NV [SE]
Jon G. Fuller, Universal Studios, FL [U]
Reuben Goldberg, Technic Services, CA [U]
 Rep. The Alliance of Special Effects & Pyrotechnic Operators, Inc.
Michael J. Hagan, RADCO, CA [RT]
Jeremiah Harris, Harris Production Services/PRG, NY [U]
Kenneth L. Kosanke, PyroLabs, Incorporated, CO [SE]
Joshua Lazarus, State of New Jersey, NJ [E]
Dave McCulloch, National Resources Canada, Canada [E]
Amanda M. McLean, Pyroam, Inc./Luna Tech, Inc., AL [M]
Craig A. Meyers, Clark County Fire Department, NV [E]
Thaine Morris, MP Associates Incorporated, CA [M]
Andrew T. Nicholls, Orlando Special Effects, Inc., FL [M]
John T. Rodgers, John T. Rodgers, PE, CA [M]
Monona Rossol, Arts, Crafts & Theater Safety, Inc., NY [SE]
Larry Schoeneman, Interesting Products, IL [SE]
 Rep. Entertainment Services & Technology Association
David S. Shatzer, US Bureau of Alcohol, Tobacco, Firearms & Explosives, DC [E]
James H. Stannard, Jr., Stannard & Company, NJ [SE]
Martin E. Steinke, Busch Entertainment Corporation, FL [U]
Charles P. Weeth, Weeth & Associates, LLC, WI [SE]
Tylor A. Wymer, WOW!Works, A Buckley/Wymer Company, FL [U]
Marge Yarbrough, State of California, State Fire Marshal, CA [E]
William J. Young, Superior Energy Systems, Ltd., OH [M]
 Rep. National Propane Gas Association

Alternates

Damon H. Andrew, Busch Entertainment Corporation, MO [U]
 (Alt. to Martin E. Steinke)
Tassilo Baur, San Fernando, CA [U]
 (Alt. to Reuben Goldberg)
Daniel Birket, Birket Engineering Inc., FL [M]
 (Alt. to Glenn A. Birket)
Thomas Dewille, Luna Tech, Inc. [M]
John Hamaric, Universal Orlando, FL [U]
 (Alt. to Jon G. Fuller)
John Hendrick, Natural Resources Canada [E]
Gregory Meeh, Jauchem & Meeh Inc., NY [U]
 (Alt. to Jeremiah Harris)
Robert B. Nicholson, III, Eastern Propane Corporation, NJ [M]
 (Alt. to William J. Young)
David J. Pier, MP Associates, Inc., CA [M]
 (Alt. to Thaine Morris)
Elia P. Popov, J.E.M. F/X Incorporated, CA [M]
 (Voting Alt.)
Karl G. Ruling, Entertainment Services & Technology Assn., NY [SE]
 (Alt. to Larry Schoeneman)
John R. Steinberg, Pyrotechnics Guild International, Inc., MD [M]
 (Alt. to Daryl Marmon)
Lawrence Weinman, Schneier-Weinman Consultants, TX [SE]
 (Alt. to Kenneth L. Kosanke)
Michael L. Ziemann, RADCO, CA [RT]
 (Alt. to Michael J. Hagan)

Mark Hagemann, US Department of Labor, DC [E]Staff Liaison: **Guy R. Colonna**

Committee Scope: This Committee shall have primary responsibility for documents on the controlled use of flame, pyrotechnics, or other means of special effects for entertainment, exhibition, demonstration, or simulation before a proximate audience; and the design, fabrication, installation, testing, control, operation, and maintenance of user equipment, fuel storage, and sources for special effects before a proximate audience.

This Committee does not have responsibility for documents on hazards other than those involving a proximate audience and the life safety considerations of the audience.

This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the front of this book.

The Technical Committee on **Special Effects** is presenting Two Reports for adoption, as follows:

Report I: The Technical Committee proposes for adoption, amendments to NFPA 160, **Standard for the Use of Flame Effects Before an Audience**, 2006 edition. NFPA 160-2006 is published in Volume 8 of the 2009 National Fire Codes and in separate pamphlet form.

The report on NFPA 160 has been submitted to letter ballot of the **Technical Committee on Special Effects**, which consists of 31 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

Report II: The Technical Committee proposes for adoption, amendments to NFPA 1126, **Standard for the Use of Pyrotechnics Before a Proximate Audience**, 2006 edition. NFPA 1126-2006 is published in Volume 12 of the 2009 National Fire Codes and in separate pamphlet form.

The report on NFPA 1126 has been submitted to letter ballot of the **Technical Committee on Special Effects** which consists of 31 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

**160-1 Log #CP1 Final Action: Accept
(Entire Document)**

Submitter: Technical Committee on Special Effects,
Recommendation: Review and update references to other organizations' documents as shown:

2.2 NFPA Publication.
National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, Standard for Portable Fire Extinguishers, 2002⁷ edition.

2.3 Other Publications.
2.3.1 ASME Publication.

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

ASME Boiler Pressure Vessel Code, 1992²⁰⁰⁷.

Substantiation: To conform to the NFPA Regulations Governing Committee Projects, the document references have been updated, both NFPA and non-NFPA to the most current editions. The standard does not contain any extracted material, so no updating is required for extracted text.

Committee Meeting Action: Accept

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

**160-2 Log #8 Final Action: Accept in Principle
(1.3.5)**

Submitter: G. Clark Parkhurst, Jr., Prospect, CT

Recommendation: Add new text as follows:

1.3.5 NFPA 140 shall apply when there is no audience for the rehearsal, videotaping, audiotaping, or filming of any television, radio, or movie production where flame effects are used.

Substantiation: As more jurisdictions adopt NFPA 160 there is confusion as to whether a permit is needed to use flame effects for the Film Industry when no audience is present. This will require that all productions notify the local AHJ of the use of flame effects and will require the production to obtain the necessary permits.

Committee Meeting Action: Accept in Principle

Add new 1.3.5 as shown below:

1.3.5 When there is no audience present, NFPA 140, *Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations*, shall be used to regulate any flame effect use.

Committee Statement: The Committee modified the format for the proposed addition, using a similar requirement found in the NFPA 140. The documents now refer to each other using a similar structure for this provision. The editorial revision also clarifies the applicability of the 2 documents.

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

**160-3 Log #1 Final Action: Reject
(Chapter 3 (Various), 5, and 8)**

Submitter: Steve Zigmont, Zigmont Magix FX Inc.

Recommendation: None given.

Substantiation: NFPA 160 is vague on separation and many other guidelines.

I have 7 years of professional propane flame operator experience. I have used propane on tour before 160 was published.

Licensed State of Texas Flame Certified (Propane & Gas) Effects Operator Certified

Licensed State of Nevada Certified Propane Effects Operator NFPA 160. 2001

Licensed State of Ohio. Licensed Certified Flame Effects Operator NFPA 160. 2001.

In my experience I found that NFPA 160. 2001 does not satisfy the scope of safety needed for group 3 temporary touring flame effect touring show.

There is no guideline for group 3 limited duration special events for separation of propane cylinders from effect burners. NFPA 160 has the code of the safe guards the unit should have but little in real time touring guidelines.

The following are the guidelines that were suggested by the manufacturers and fire marshals at venues. We have used the below guidelines as our standards until NFPA rewrites the book and addresses our needs.

If I don't have the answers at least I have the questions that need to be addressed. My answers are what I am forced to use because the NFPA 160 was not written like NFPA 1126, which has been the benchmark for 1.4 pyrotechnics guidelines.

Chapter 5 Use of Flame Effects should include these statements:

Safe distance of flame burner head from the propane bottle.

- Safe distance will be at least 10 ft
-

- Unless the flame propane tanks are housed in an enclosed container with an opening on the rear, with the effect burner above, and is separated with a metal flooring keeping tanks and effect burner separated. A self contain unit used for sports events

Safe distance of 20-gallon accumulator tanks to effect burner.

- Safe distance is at least 10 ft

- Unless the flame propane tanks are housed in an enclosed container with an opening on the rear, with the effect burner above, and is separated with a metal flooring keeping tanks and effect burner separated. A self contain unit used for sports events

Safe Distance of propane bottles and tanks from audience.

- In all cases propane tanks should be 20 ft away from the general public and audiences

Placement of charged propane hose.

1. The general public, ushers, building staff or backstage guests should not come in contact or have to step over hoses that are charged with propane unless covered with a protective matting or guard.

2. No hose that is connected to a propane bottle or accumulator tank shall be placed within 5 ft from a path or walkway, to allow for the hose to rise to the connecting fitting.

****Note -** I have seen accumulator tanks and propane feeder tanks placed feet away from a smoking audience at events I attended, and propane effects were present.

Mounting effect burners

All effect burners devices shall be mounted in a secure manner to maintain their proper positions and orientations so that, when they are fired, the Flame effects described in the plan submitted by the permittee are produced. Like NFPA 1126.

Leak check on set up

Usiea battery operated propane detector check for leaks

Inspect entire system to make sure no damage has occurred to effect burner, hoses and assemble system. Turn on propane

1 Check for leaks

Bring system to operating pressure and Arm the system

2 Check for leaks

Test flame reset pressure

3 Test for leaks

Chapter 8 / Annex A.5.1

Incident thermal flux and resulting surface temperatures allows a safe distance of the crowd when temperature is measured.

I believe a table of distance from the audience as a minimum distance of effect Burner would be in order. Like NFPA 1126.

- Each Flame device fired during a performance shall be separated from the audience by at least 20 ft (4.6 m)

1. But not less than twice the fallout radius of the device. If a Flame device has a 10-ft (3-m) fallout radius, the flame device should be separated from the audience by a minimum distance of 20 ft (6 m).

2. Unless the measured temperature of Incident thermal flux or Incident radiation reading require further distances.

***Note -** My Sigma Services 30 ft flame units at 15 ft reach 95 percent above ambient temperature reading.

Chapter 3 / 3.3.1-i Supplemental fire protection

I believe a minimum required like NFPA 1126

Portable Fire-Fighting Equipment. Four or more fire extinguishers of the classification and size as approved by the authority having jurisdiction. At least two pressurized water, Class 2 - A extinguishers and two Classes 10-BC extinguishers shall be provided.

Committee Meeting Action: Reject

Committee Statement: No specific recommendation has been provided, so there is no action for the committee to take. The submitter is encouraged to consider developing specific language applicable to the information provided in the substantiation and then resubmit to the Committee for future consideration.

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

**160-4 Log #CP4 Final Action: Accept
(3.3.X Performers and Support Personnel (new))**

Submitter: Technical Committee on Special Effects,

Recommendation: Add definitions and Annex for performers and support personnel from 1126 into this standard; Performer would be numbered 3.3.21 and Support Personnel would be number 3.3.31 and existing definitions would be renumbered accordingly:

3.3.21* Performer. Any person active in a performance during which pyrotechnics are used and who is not part of the audience or support personnel.

A.3.3.21 Performer. Performers can include, but are not limited to, actors, singers, musicians, and acrobats.

3.3.31* Support Personnel. Any individual who is not a performer or member of the audience.

A.3.3.31 Support Personnel. Among others, support personnel include the road crew of any production, stage hands, property masters, security guards, fire watch officers, janitors, or any other employee.

Substantiation: These terms are also used in this standard and should be defined. Using the definitions from NFPA 1126 ensures that the terms are used consistently between the special effects documents.

Committee Meeting Action: Accept

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-5 Log #CP6 **Final Action: Accept**
(3.3.11 Flame Effect)

Submitter: Technical Committee on Special Effects,

Recommendation: Revise 3.3.11 Flame Effect definition as shown:

3.3.11 Flame Effect. The combustion of flammable solids, liquids, or gases to produce thermal, physical, visual, or audible phenomena before an audience.

Substantiation: The word “flammable” was deleted from the existing definition to reflect the use of “combustible” materials as flame effect materials, whether solid, liquid or gaseous. The definition now states that any material, when combusted, producing thermal, physical, visual, or audible effect before an audience is to be treated as a flame effect.

Committee Meeting Action: Accept

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-6 Log #CP2 **Final Action: Accept**
(5.3.1.2, A.5.3.1.2)

Submitter: Technical Committee on Special Effects,

Recommendation: Add asterisk to 5.3.1.2 and delete 5.3.1.2 (4) and renumber remaining.

5.3.1.2* The plan shall include the following:

(1) The name of the person, group, or organization responsible for the production

(2) The dates and times of the production

(3) The location of the production

(4) The criteria in Annex B

(54) The flame effect classification

(65) A site plan showing the following:

(a) A narrative description of the flame effect

(b) The location of flame effect devices to be fired and their controls and control sequence

(c) The area affected by the flame effect device

(d) The location of the audience

(e) The fuels used and their estimated consumption

(f) Air for combustion and ventilation for indoor effects

(g) Flammable materials piping

(h) Storage and holding areas and their capacities

(i) Supplemental fire protection features

(j) Emergency response procedures

(k) Means of egress

(76) A current material safety data sheet (MSDS) for the materials (fuels) consumed in the flame effect

(87) Documentation that the combustible materials used for construction of the flame effects have been rendered flame retardant

(98) The name of the effect operator

Add new A.5.3.1.2 to read as follows:

A.5.3.1.2 See Annex B for guidelines on design of flame effects.

Substantiation: The Committee added the annex commentary to provide a more conspicuous reference to Annex B.

Committee Meeting Action: Accept

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-7 Log #3 **Final Action: Accept in Principle**
(5.3.3 (New))

Submitter: Jon Nisja, Northcentral Regional Fire Code Development Committee

Recommendation: Add a new section to read:

5.3.3 The plan shall be reviewed with the authority having jurisdiction, Flame Effects Operators, Building owner/representative prior to the flame effects productions to assure coordinated response in the event of an emergency.

Substantiation: It is important for all of the principals that are involved in a production to fully understand the effects presented, how they may affect the building and its components, fire and life safety systems, and the occupants that will view the productions.

Committee Meeting Action: Accept in Principle

Add a new section to read:

5.3.3 The plan shall be reviewed with the authority having jurisdiction, flame effect operator, and building owner/representative prior to the production to assure coordinated response in the event of an emergency.

Committee Statement: The Committee made slight editorial changes from the proposed text in order to match text currently found in 5.3.1.2 regarding the content of the plan.

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-8 Log #CP3 **Final Action: Accept**
(7.1)

Submitter: Technical Committee on Special Effects,

Recommendation: Revise 7.1 as follows:

7.1 Testing and Evaluation.

7.1.1 Flame effects shall be tested to verify that they operate in accordance with their designs.

7.1.2* Flame effects shall be evaluated to verify that spectators, performers, support personnel, and the operator are not exposed to a hazardous situation when the flame effects are activated as designed or anticipated.

7.1.3 On an interval acceptable to the authority having jurisdiction, flame effects shall be inspected for normal and safe operating condition and retested for operation as designed and anticipated.

7.1.4 Documentation of the testing and evaluation shall be permitted to be prepared by a third party acceptable to the AHJ.

7.1.4.1 The documentation shall be made available to the AHJ as a part of the application for approval of the effect.

Revise existing A.7.1 to become A.7.1.2 as shown:

A.7.1.2 As a guide, the incident radiation from the flame effect should not cause the surface temperature of the exposed skin of a member of the audience to exceed 111°F (44°C), as measured using an infrared surface thermometer or other equivalent means. The operator should have on site, the instrumentation necessary to verify skin temperature, if requested by the AHJ.

Delete the initial portion of A.7.1, including the figure A.7.1

~~An audience should be located so that the incident thermal radiation received does not exceed that calculated by the following equation:~~

~~Delete equation.~~

~~—where:~~

~~—t = time in seconds~~

~~—q = incident thermal flux in kW/m²~~

~~—The value of q can also be taken from Figure A.7.1.~~

Delete Figure A.7.1

~~—When applying the preceding equation to an effect with a duration of 4 seconds or less, the time used in calculating the maximum acceptable level of incident thermal flux should correspond to the root mean square (RMS) value of the peak incident thermal flux:~~

~~—Calibrated tinder techniques can be used for measurement of continuous effects:~~

Substantiation: The Committee revised existing Section 7.1 that establishes a basis for the separation distances to the audience based on testing and evaluation of the flame effects. The existing requirement cites both thermal flux calculation and exposed skin surface temperature (in the Annex) to determine appropriate flame effects usage considering the audience or spectator separation. This change eliminates the use of thermal flux as this method is not as practical in the field. The Committee believes that measuring skin surface temperature with an IR surface thermometer or other equivalent means, is more readily available and more practical for this application.

Committee Meeting Action: Accept

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-9 Log #2 **Final Action: Accept in Principle**
(7.1.1)

Submitter: Robert Bourke, Northeastern Regional Fire Code Development Committee

Recommendation: Revise text to read:

7.1.3 Flame effects shall be evaluated to verify that employees of the facility, security, operators, performers, and the audience, and others are not exposed to a hazardous situation when the flame effects are activated as designed or anticipated.

Substantiation: There are situation where light operators above the effect have been affected by heat etc. They along with others previously not mentioned should be protected from hazardous situations from flame effects.

Committee Meeting Action: Accept in Principle

See Committee Proposals 160-8 (Log #CP3) and 160-4 (Log #CP4).

Committee Statement: The action to modify existing 7.1 as shown in Committee Proposal 160-8 (Log #CP 3) and Committee Proposal 160-4 (Log #CP4) accomplishes the recommended changes to the standard proposed by the submitter as the changes made by the two referenced proposals include protection for support personnel, performers and cast members.

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-10 Log #6 **Final Action: Reject**
(7.11.1 and 7.11.2)

Submitter: Jon Nisja, Northcentral Regional Fire Code Development Committee

Recommendation: Revise text to read as follows:

An approved means shall be provided to render installed flame effect systems inoperative when not in use.

7.11.2 Portable flame effects shall be stored and secured in an approved manner when not in use.

Substantiation: The means to render the flames effect inoperative should be approved by the AHJ to ensure safety. The same applies to portable effects that could be moved, taken or otherwise accessed by unauthorized individuals method of securing should be approved.

Committee Meeting Action: Reject

Committee Statement: The procedures to be followed when flame effects are not in use, whether installed or portable, are to be included in the plan, and based upon the current requirement in paragraph 5.2.1, the plan is required to be approved by the AHJ. The review and approval of the plan could include discussion of the procedure or methods to be followed when flame effects systems are not in use. Safety and security issues are addressed in 9.1.

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-11 Log #7 **Final Action: Reject**
(8.3)

Submitter: Robert Bourke, Northeastern Regional Fire Code Development Committee

Recommendation: Revise text to read as follows:

8.3 Substance Abuse and Safety. No operator, assistant or performer person shall use, or handle, or be in proximity to flame effect materials or devices under the influence of the following:

- (1) Intoxicating beverages
- (2) Narcotics or controlled substances
- (3) Prescription drugs and/or nonprescription drugs that can impair judgment

Substantiation: The proposed text would increase the safety of flame effects by making sure that the performers are also not under the influence of any of those items on the list. Currently the AHJ and operators have no control over performers who may be intoxicated.

Committee Meeting Action: Reject

Committee Statement: The proposed modification is to a section addressing requirements for the qualifications for operators; it is not appropriate to suggest that these provisions be applied to the performers or other personnel involved in the production in this section. The qualifications of the operator and the operator's responsibilities as defined in Section 8.2 make them responsible for the supervision and competence of assistants. Based on the requirements in paragraph 9.3.5.1, the operator is already responsible for confirming that the hazard area is clear before arming and firing flame effects.

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-12 Log #CP5 **Final Action: Accept**
(8.3)

Submitter: Technical Committee on Special Effects,

Recommendation: Revise 8.3 as shown:

8.3 Substance Abuse and Safety.

No person shall use or handle flame effect materials or devices while under the influence of the following:

- (1) Intoxicating beverages
- (2) Narcotics or controlled substances

(3) Prescription drugs and/or nonprescription drugs that can impair judgment

Substantiation: The Committee made editorial changes to the existing requirement pertaining to substance abuse and safety.

Committee Meeting Action: Accept

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

Comment on Affirmative:

MEEH, G.: Propose-add nonprescription

#2 narcotics are controlled substances

#3 prescription drugs that impair judgment

Some prescription drugs are controlled substances

160-13 Log #4 **Final Action: Accept**
(9.3.1.1)

Submitter: Jon Nisja, Northcentral Regional Fire Code Development Committee

Recommendation: Add and/or revise text to read as follows:

9.3.1.1 One of the following conditions shall be met prior to the use of flame effects:

(1) Approval of a plan to extinguish the flame effect as required in 9.3.1.4

(2) Approval of a supervisory control system for the emergency stop and complete shutdown of the flame effect and any interrelated safety-critical system as required in 9.3.1.5

Substantiation: The proposed text better clarifies the requirement.

Committee Meeting Action: Accept

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-14 Log #5 **Final Action: Reject**
(11.2 (New))

Submitter: Jon Nisja, Northcentral Regional Fire Code Development Committee

Recommendation: Add new section 11.2 and renumber the existing sections: **11.2** Flame Effects shall only be used indoors in buildings that contain an automatic fire sprinkler system.

Substantiation: Flames effects should be used only in building where a fire sprinkler system has been installed. Flame effects can malfunction or other things could affect the flame effect that placed the building and its occupants in danger. The Station Night Club Fire is a good example of things going wrong.

Committee Meeting Action: Reject

Committee Statement: The submitter has not provided justification that confirms that flame effects are "better displayed" indoors only when protected by automatic sprinkler systems; the proposed language does not account for the different types of venues where requirements might vary. In addition, the requirement for automatic sprinkler protection is already found in NFPA 101, Life Safety Code and building codes. Reference to the tragic Station Night Club fire fails to note that no permit was issued for that use of special effects. Compliance with this standard, requires a permit.

The Committee believes the recommended change is more appropriately handled through fire, building, and life safety codes.

Paragraph 5.1.1 requires a permit for the use of flame effects unless otherwise stated; the AHJ can make the decision to approve the use based upon the presence of adequate fire protection, including automatic sprinkler protection. Use permits include consideration of the venue and what protection is available and needed when determining whether to approve the use of flame effects as part of a production. The contents of the plan as described in 5.3.1.2 (i) directs the AHJ to consider supplemental fire protection features and thus enables an AHJ to not permit flame effects to be used in venues without sprinkler protection if they so choose.

The proposed new text is directed to Section 11.2 where it is already required that the building owner, flame effect operator and AHJ conduct a fire hazards evaluation; elements of this evaluation are outlined in the Annex to this section, A.11.2.1, and include determination of the detection and extinguishing systems required for the venue.

Number Eligible to Vote: 31

Ballot Results: Affirmative: 19

Ballot Not Returned: 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.

160-15 Log #9

Final Action: Reject**(Chapter X (New))****Submitter:** Bruce A. Lawson, Homeland Fireworks, Inc.**Recommendation:** Develop specific standards for electric match initiated, black powder propelled liquid and solid fueled flame effects fired from mortars for outdoor use. The standards should establish the types and sizes of mortars for each type of fuel, the placement standards for the mortars, the assembly procedures of the flame effect on site, maximum quantities of propellant and fuel, minimum distances to spectators, buildings and property, minimum distances from each flame effect to other flame effects, pyrotechnics or fireworks, minimum distances to personnel, protective clothing for personnel, wiring and firing procedures, basic fire prevention and protection measures, and procedures for misfires or removal if not used.**Substantiation:** Specific standards are needed for these types of flame effects to differentiate between the standards that are more applicable to propane based flame effects, and solid or liquid fueled flame effects without propellant and a mortar in order for AHJs to understand so their use can be approved for safe use at fireworks displays, air shows, stunt shows and other entertainment.

Attached are Homeland Fireworks Gas Mine Procedures and other fire data and information for the committee's use.

Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Action: Reject**Committee Statement:** While part of this submittal includes flame related activities and also describes a flame effect that would be covered by the definition for flame effect as addressed in this standard, the submitter has not provided any specific technical requirements to be considered by the Committee as part of this submittal. The submitter is invited to develop specific technical recommendations on this subject and resubmit for future consideration by the Committee. The Committee also notes that some aspects of the general information presented here in the recommendation address operations that would be outside of the scope of this document.**Number Eligible to Vote: 31****Ballot Results:** Affirmative: 19**Ballot Not Returned:** 12 Colon, J., Contestabile, E., Davidson, R., Lazarus, J., McCulloch, D., Morris, T., Popov, E., Rodgers, J., Shatzer, D., Stannard, Jr., J., Weeth, C., Wymer, T.