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## Action on NFPA Codes & Standards

# NFPA NEWS

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## Committee Leadership Conference

The Committee Leadership Conference will be held on Sunday, June 7, 2009, at the NFPA Conference and Expo® at the McCormack Place, Chicago, Illinois. The registration for the Conference will start at 8:00 a.m. on June 7<sup>th</sup>. The Committee Leadership Conference is held at each June Meeting. This conference is a formalized training program that provides each NFPA Committee officer with specific training in carrying out the duties and responsibilities of his or her assignment. The Conference is open to all NFPA Committee members and others who wish to attend. Advance registration is requested. Please contact Codes and Standards Administration at 617-984-7248.

## Comments Sought Proposed Tentative Interim Amendments

The following Tentative Interim Amendments (TIAs) have been proposed to NFPA. They are being published for public review and comment. Comments should be filed with the Secretary, Standards Council, by the date indicated below.

These proposed TIAs have also been forwarded to the responsible technical committee for processing. The technical committee will consider public comments received by the date indicated below before vote is taken on the proposed TIA. (Please identify the

number of the TIA to which the comment is addressed.) Three-fourths of the voting members of the technical committee and/or the technical correlating committee, if any, must vote in favor of the TIA on both technical merit and emergency nature as calculated in accordance with 3.3.4.5 of the Regulations Governing Committee Projects to establish a recommendation for approval of the TIA.

The Standards Council will review the technical committees' ballot results, the public comments, and any other information that has been submitted when it considers the issuance of the TIA at its August 4-6, 2009 meeting. In accordance with 1.6.2(c) of the Regulations, a proposed TIA which has been submitted for processing pursuant to 5.1 of the Regulations will be automatically docketed as an appeal on the agenda of the Standards Council, and any party may advocate their position either in writing or in person before the Council. If an automatically docketed appeal has not been pursued by any party, the Council need not consider the matter as an appeal.

A TIA is tentative because it has not been processed through the entire codes- and standards-making procedures. It is interim because it is effective only between editions of the document. A TIA automatically becomes a proposal of the proponent for the next edition of the document. As such, it then is subject to all of the procedures of the codes- and standards-making process.

### NFPA 70®-2008 and proposed 2011 Edition *National Electrical Code®*

TIA Log No.: 941

Reference: 250.104

Comment Closing Date: April 17, 2009

Submitter: Robert Torbin, Cutting Edge Solutions LLC

*1. Revise 250.104 to read as follows:*

### 250.104 Bonding of Piping Systems and Exposed Structural Steel.

**(B) Other Metal Piping.** Where installed in or attached to a building or structure, a metal piping system(s), including gas piping, that is likely to become energized shall be bonded to the service equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or the one or more grounding electrodes used. ~~The bonding jumper(s) shall be sized in accordance with 250.122, using the rating of the circuit that is likely to energize the piping system(s). The equipment grounding conductor for the circuit that is likely to energize the piping shall be permitted to serve as the bonding means.~~ The points of attachment of the bonding jumper(s) shall be accessible.

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**(1) Other than Corrugated Stainless Steel Tubing (CSST).** The bonding jumper(s) shall be sized in accordance with 250.122, using the rating of the circuit that is likely to energize the piping system(s). The equipment grounding conductor for the circuit that is likely to energize the piping shall be permitted to serve as the bonding means.

**(2) CSST.** Corrugated stainless steel tubing gas piping systems shall be bonded by connection to a metallic piping segment or fitting, either outside or inside the building, between the individual gas meter and the first CSST fitting. The bonding jumper shall be sized in accordance with Table 250.66 based on the size of the service-entrance conductor or feeder supplying each occupancy and as permitted in 250.66(A), (B) and (C) but not smaller than 6 AWG copper (or equivalent).

FPN (unchanged)

**Submitter's Substantiation:** It is well known that direct bonding of metallic systems to the grounding electrode system will reduce the chances of arcing between electrically conductive pathways when energized by a high voltage source. The term "direct" bonding is intended to mean the use of a dedicated conductor and appropriately listed clamps to make an electrical connection between the piping and the grounding electrode system in the shortest and most straightforward path practical. The fine print note following Section 250.104(B) provides similar guidance. In addition, NFPA 780 recommends "equipotential" bonding of all metallic systems to reduce the potential for damage when energized by lightning. Although Section 250.104(B) of the NEC allows the use of the equipment grounding conductor as the bonding means for a gas piping system (for personal safety purposes), it is not intended to preclude the direct bonding of the piping system. The 2008 NEC Handbook commentary supports this interpretation.

The CSST industry has performed laboratory testing and engineering analysis on direct bonding that demonstrates a significant reduction in the potential for arc-induced damage to CSST when energized by lightning energy. All CSST manufacturers now recommend the direct bonding of CSST to the grounding electrode system of the premise in which it is installed utilizing at least a 6 AWG copper wire or equivalent. The point of bonding attachment is near the point where the gas piping enters the premise using a standard bonding clamp installed in accordance with its listing to the UL 467 standard. Generic installation instructions for CSST bonding (see Attachment A) have been written to ensure consistent field practices among installers, and to provide guidance to local code enforcement officials. In addition, the ANSI standard for CSST systems is being updated to include a requirement for bonding instructions and performance requirements to verify the electrical properties.

During the recently completed development cycle, the NFPA 54/ National Fuel Gas Code Technical Committee considered published reports of damage to the CSST from lightning strikes (see Emergency Nature) and recommended new coverage for the bonding of CSST systems in the 2009 edition. That language (in part) includes the following requirement:

*7.13.2 CSST. CSST gas piping systems shall be bonded to the electrical service grounding electrode system at the point where the gas service enters the building. The bonding jumper shall not be smaller than 6 AWG copper wire or equivalent.*

The 2009 code development process (ROP and ROC) has been completed for both AGA (American Gas Association) and NFPA, and all appeals have been finalized. Subsequently, ANSI approved the 2009 edition of the Code on September 5, 2008. The complete coverage for the bonding of CSST is shown in Attachment B.

**Technical Merit:** Direct bonding of all metallic piping systems entering a building is an important, but often overlooked, approach when considering protection of a building and its contents during an electrical storm. The Fine Print Note in Section 250.104(B) of the NEC supports the claim that this type of bonding is beneficial. Direct bonding (using a 6 AWG copper wire) of piping systems, as well as metallic ductwork, to the building grounding electrode system allows these systems to be energized at (or near) the same rate as the electrical system and in unison with the voltage wave caused or induced by a direct or indirect lightning strike.

The National Electrical Code contains many requirements for bonding of electrically conductive materials which include wiring, piping, communication cable and structural steel. These requirements are specified throughout the NEC and all have the common goal of protecting the public safety from electrical faults within the premise wiring system by establishing an effective, low-impedance ground fault current path. Attachment C contains a listing of references within the NEC for the use of direct bonding and the application of a 6 AWG copper wire as the bonding means. It is quite clear that the use of a 6 AWG copper bond wire is a well established approach for other, similar conductive metallic systems; that a 6 AWG copper wire will be an effective means for diverting (to earth) the energy associated with a lightning strike; and the use of direct bonding should be a familiar and straightforward solution to implement in the field by electrical contractors.

The use of the equipment grounding conductor (EGC) as the bonding means will not achieve the same effect. The EGC (which is typically a 12 or 14 AWG copper wire) does not allow the mechanical equipment and piping to be energized at (or near) the same rate as the electrical system following a lightning strike. The path to ground through the EGC is typically much longer (and with greater impedance) than the direct bonding distance (near the service entrance) between the piping system and the grounding electrode system. When energized by lightning, this situation permits the electrical potential in the many conductive pathways to become unbalanced, and thus arcing is more likely to occur. Bonding through the equipment grounding conductor is only intended for personnel safety in the event of an electrical fault occurring in the premise wiring system, and has been shown to be inadequate when dealing with lightning energy.

**Emergency Nature:** There have been numerous accounts of damage to corrugated stainless steel tubing from both direct and indirect lightning strikes on or near residential structures containing this type of gas piping system. The damage is consistent: an arc-induced perforation is created through the tubing wall from a voltage imbalance between the CSST and another electrically conductive system in close proximity (see Attachment D). Fires are often associated with this type of damage, and have resulted in partial or total losses of property.

Because of legal and product liability issues, the CSST manufacturers are reluctant to release data on the actual number of reported fires caused by damaged CSST. Although no verifiable count of affected properties is known, it is estimated to be several dozen

homes per year that account for millions of dollars in insurance losses. However, the news media around the country actively report these incidents of lightning caused fires. A typical example of one recent fire in Indianapolis is shown in Attachment E.

All CSST manufacturers have subsequently revised their installation requirements to mandate the direct bonding of all CSST systems. CSST is a listed fuel gas system and is certified by CSA in accordance with a nationally recognized standard: ANSI LC-1-2005. Thus, the manufacturer's Design and Installation Guide is considered part of the listed system. The ANSI standard is also being updated to reflect the new bonding requirements. As previously mentioned, the NFPA 54 (National Fuel Gas Code) Technical Committee recognized this problem and has recommended the adoption of new coverage for the bonding of CSST systems in the 2009 edition.

These related changes will create potential conflicts with NFPA 70 because the NEC does not require this additional bonding for gas piping systems. The CSST manufacturers also recognize the fact that the CSST bonding will be installed by electrical contractors and enforced through the electrical inspectors rather than the plumbing/mechanical contractors and inspectors. However,

many jurisdictions currently do not require this additional bond to be installed, and have indicated a reluctance to enforce this requirement until a change is made in the NEC. At the same time, mechanical/plumbing contractors and inspectors are trying to follow the manufacturer's mandatory bonding instructions and (in the near future) the requirements of the fuel gas code. Approval of the proposed TIA would clearly indicate the acceptability of such a bond connection, and clarify the responsibility of the contractors and inspectors regarding the installation of the bonding conductor.

Supporting Material is available from NFPA's Codes and Standards Administration.

**NFPA 1600®-2007 Edition and proposed 2010 Edition**

*Standard on Disaster/Emergency Management and Business Continuity Programs*

**TIA Log No.:** 948

**Reference:** Annex C

**Comment Closing Date:** April 17, 2009

**Submitter:** Charles P. Adams, Medina County Emergency Management Agency and Dean R. Larson, Purdue University Calumet

*1. Add a new C.4, Checklist for Compliance with NFPA 1600:*

**Annex C Additional Resources**

**Checklist for Compliance with NFPA 1600**

**Checklist for Compliance with NFPA 1600 2007 Edition**

NFPA 1600 Program Elements	Yes - compliant	No – not compliant	Corrective Actions
4.1 Program Administration The entity has a documented program that includes the following: (1) Executive policy including vision, mission statement, roles and responsibilities, and enabling authority (2) Program goals, objectives, and method of program evaluation (3) Program plan and procedures (4) Applicable authorities, legislation, regulations, and/or industry codes of practice (5) Program budget and project schedule (6) Records management practices			
4.2 Program Coordinator. The program coordinator has been appointed by the entity and authorized to administer and keep current the program.			
4.3 Advisory Committee			
4.3.1 An advisory committee is established by the entity in accordance with its policy.			
4.3.2 The advisory committee provides input to or assist in the coordination of the preparation, implementation, evaluation, and revision of the program.			
4.3.3 The committee includes the program coordinator and others who have the appropriate expertise and knowledge of the entity and the capability to identify resources from all key functional areas within the entity and shall solicit applicable external representation.			
4.4 Program Evaluation			
4.4.1 The entity has established performance objectives for program elements listed in Chapter 4 and Chapter 5 and conducts a periodic evaluation of the objectives as described in Section 5.13.			
4.4.2 The entity conducts a periodic evaluation of the program based on the objectives.			
5.1 General			
5.1.1 The program includes the elements in Sections 5.2. through 5.16, the scope is determined by the impact of the hazards affecting the entity.			
5.1.2* The organization's program elements include prevention, mitigation, preparedness, response, and recovery.			

<b>5.2 Laws and Authorities.</b>			
<b>5.2.1</b> The program complies with applicable legislation, policies, regulatory requirements, and directives.			
<b>5.2.2*</b> The entity has implemented a strategy for addressing the need for revisions to legislation, regulations, directives, policies, and industry codes of practice.			
<b>5.3* Risk Assessment</b>			
<b>5.3.1*</b> The entity has identified hazards, monitors the identified hazards, assesses the likelihood of their occurrence, and assesses the vulnerability of people, property, the environment, and the entity itself to those hazards.			
<b>5.3.2*</b> Hazards that have been evaluated for potential effect on the entity include the following:			
(1) <b>Natural hazards (geological, meteorological, and biological)</b> that can occur without the influence of people and have potential direct or indirect impact on the entity (people, property, the environment), such as the following:			
(a) <b>Geological hazards</b> (does not include asteroids, comets, meteors)			
i. Earthquake			
ii. Tsunami			
iii. Volcano			
iv. Landslide, mudslide, subsidence			
v. Glacier, iceberg			
(b) <b>Meteorological hazards</b>			
i. Flood, flash flood, seiche, tidal surge			
ii. Drought			
iii. Fire (forest, range, urban, wildland, urban interface)			
iv. Snow, ice, hail, sleet, avalanche			
v. Windstorm, tropical cyclone, hurricane, tornado, water spout, dust/sand storm			
vi. Extreme temperatures (heat, cold)			
vii. Lightning strikes			
viii. Famine			
ix. Geomagnetic storm			
(c) <b>Biological hazards</b>			
i. Emerging diseases that impact humans or animals [plague, smallpox, anthrax, West Nile virus, foot and mouth disease, SARS, pandemic disease, BSE (Mad Cow Disease)]			
ii. Animal or insect infestation or damage			
(2) <b>Human-caused events</b> such as the following:			
(a) <b>Accidental</b>			
i. Hazardous material (explosive, flammable liquid, flammable gas, flammable solid, oxidizer, poison, radiological, corrosive) spill or release			
ii. Explosion/fire			
iii. Transportation accident			
iv. Building/structure collapse			
v. Energy/power/utility failure			
vi. Fuel/resource shortage			
vii. Air/water pollution, contamination			
viii. Water control structure/dam/levee failure			
ix. Financial issues, economic depression, inflation, financial system collapse			
x. Communications systems interruptions			
xi. Misinformation			
(b) <b>Intentional</b>			
i. Terrorism (explosive, chemical, biological, radiological, nuclear, cyber)			
ii. Sabotage			
iii. Civil disturbance, public unrest, mass hysteria, riot			
iv. Enemy attack, war			
v. Insurrection			
vi. Strike or labor dispute			
vii. Disinformation			
viii. Criminal activity (vandalism, arson, theft, fraud, embezzlement, data theft)			
ix. Electromagnetic pulse			
x. Physical or information security breach			
xi. Workplace violence			
xii. Product defect or contamination			
xiii. Harassment			
xiv. Discrimination			
3) <b>Technological-caused events</b> that can be unrelated to natural or human-caused events, such as the following:			
(a) Central computer, mainframe, software, or application (internal/external)			
(b) Ancillary support equipment			
(c) Telecommunications			

(d) Energy/power/utility			
<b>5.3.3*</b> The entity conducted an impact analysis to determine potential detrimental impacts of the hazards on the following:			
(1) Health and safety of persons in the affected area at the time of the incident (injury and death)			
(2) Health and safety of personnel responding to the incident			
(3)* Continuity of operations			
(4) Property, facilities, and infrastructure			
(5) Delivery of services			
(6) The environment			
(7)* Economic and financial condition			
(8) Regulatory and contractual obligations			
(9) Reputation of or confidence in the entity			
(10)* Regional, national, and international considerations			
<b>5.4 Incident Prevention.</b>			
<b>5.4.1</b> The entity developed a strategy to prevent an incident that threatens people, property, and the environment.			
<b>5.4.2*</b> The prevention strategy is based on the information obtained from Section 5.3 and is kept current using the techniques of information collection and intelligence.			
<p><b>5.3* Risk Assessment.</b></p> <p><b>5.3.1*</b> The entity has identified hazards, monitors the identified hazards, assesses the likelihood of their occurrence, and assesses the vulnerability of people, property, the environment, and the entity itself to those hazards.</p> <p><b>5.3.2*</b> Hazards that have been evaluated for potential effect on the entity include the following:</p> <p>(1) Natural hazards (geological, meteorological, and biological)</p> <p>(2) Human-caused events (accidental and intentional)</p> <p>(3) Technological-caused events</p> <p><b>5.3.3*</b> The entity shall conduct an impact analysis to determine potential detrimental impacts of the hazards on the following:</p> <p>(1) Health and safety of persons in the affected area at the time of the incident (injury and death)</p> <p>(2) Health and safety of personnel responding to the incident</p> <p>(3)*Continuity of operations</p> <p>(4) Property, facilities, and infrastructure</p> <p>(5) Delivery of services</p> <p>(6) The environment</p> <p>(7)*Economic and financial condition</p> <p>(8) Regulatory and contractual obligations</p> <p>(9) Reputation of or confidence in the entity</p> <p>(10)*Regional, national, and international considerations]</p>			
<b>5.4.3</b> The entity has a system to monitor the threat level for identified hazards and adjust the level of preventive measures to be commensurate with the threat.			
<b>5.5 Mitigation.</b>			
<b>5.5.1*</b> The entity developed and implemented a strategy that includes measures to be taken to limit or control the consequences, extent, or severity of an incident that cannot be reasonably prevented.			
<b>5.5.2*</b> The mitigation strategy is based on the results of hazard identification and risk assessment, impact analysis, program constraints, operational experience, and cost-benefit analysis.			
<b>5.5.3</b> The mitigation strategy included interim and long-term actions to reduce vulnerability.			

<p><b>5.6* Resource Management and Logistics.</b></p> <p><b>5.6.1</b> The entity established resource management objectives consistent with the overall program goals and objectives as identified in Section 4.1 for the hazards as identified in Section 5.3.</p> <p><b>4.1 Program Administration</b> The entity has a documented program that includes the following:</p> <p>(2) Program goals, objectives, and method of program evaluation</p> <p><b>5.3* Risk Assessment.</b></p> <p><b>5.3.1*</b> The entity has identified hazards, monitors the identified hazards, assesses the likelihood of their occurrence, and assesses the vulnerability of people, property, the environment, and the entity itself to those hazards.</p> <p><b>5.3.2*</b> Hazards that have been evaluated for potential effect on the entity include the following:</p> <p>(1) Natural hazards (geological, meteorological, and biological)</p> <p>(2) Human-caused events (accidental and intentional)</p> <p>(3) Technological-caused events</p> <p><b>5.3.3*</b> The entity has conducted an impact analysis to determine potential detrimental impacts of the hazards on the following:</p> <p>(1) Health and safety of persons in the affected area at the time of the incident (injury and death)</p> <p>(2) Health and safety of personnel responding to the incident</p> <p>(3)*Continuity of operations</p> <p>(4) Property, facilities, and infrastructure</p> <p>(5) Delivery of services</p> <p>(6) The environment</p> <p>(7)*Economic and financial condition</p> <p>(8) Regulatory and contractual obligations</p> <p>(9) Reputation of or confidence in the entity</p> <p>(10)*Regional, national, and international considerations</p>			
<p><b>5.6.2</b> The resource management established procedures to locate, acquire, store, distribute, maintain, test, and account for services, personnel, resources, materials, and facilities procured or donated to support the program.</p>			
<p><b>5.6.3</b> Resource management objectives include the following</p> <p>(1) Personnel, equipment, training, facilities, funding, expert knowledge, materials, technology, information, intelligence, and the time frames within which they will be used.</p>			
<p>(2) Quantity, response time, capability, limitations, cost, and liability connected with using the involved resources.</p>			
<p>(3) Resources and any needed partnership arrangements essential to the program.</p>			
<p><b>5.6.4</b> An assessment includes the following tasks:</p>			
<p>(1) Establishing processes for describing, inventorying, requesting, and tracking resources</p>			
<p>(2) Activating these processes prior to and during an incident</p>			
<p>(3) Dispatching resources prior to and during an incident</p>			
<p>(4) Deactivating or recalling resources during or after incidents</p>			
<p>(5) Contingency planning for shortfalls of resources</p>			
<p><b>5.6.5</b> An assessment was conducted to identify the source capability shortfalls and the steps necessary to overcome any shortfalls.</p>			
<p><b>5.6.6</b> A current inventory of internal and external resources is maintained.</p>			
<p><b>5.6.7</b> Donations of goods, services, personnel, and facilities solicited and unsolicited, and the management thereof, are addressed.</p>			
<p><b>5.7* Mutual Aid/Assistance</b></p>			
<p><b>5.7.1</b> The need for mutual aid/ assistance has been determined.</p>			
<p><b>1.1.2</b> If mutual aid/assistance is needed, agreements have been established.</p>			
<p><b>5.7.3</b> Mutual aid / assistance agreements are referenced in the program plan.</p>			
<p><b>5.8 Planning.</b></p>			
<p><b>5.8.1 Planning Process</b></p> <p><b>5.8.1.1</b> The program follows a planning process that develops plan for the strategy, prevention, mitigation, emergency operations/response, business continuity, and recovery.</p> <p><b>5.8.1.2</b> The entity is engaged in the planning process on a regularly scheduled basis or when the situation has changed to put the accuracy of the existing plan into question.</p>			

5.8.1.3 Where applicable, the entity has included key stake-holders in the planning process.			
<b>5.8.2 Common Plan Elements.</b>			
5.8.2.1 The plan has clearly stated objectives			
5.8.2.2 Plans identify functional roles and responsibilities of internal and external agencies, organizations, departments and positions.			
5.8.2.3 Plans identify lines of authority for these agencies, organizations departments, and positions.			
5.8.2.4 Plans identify logistics support and resource requirements.			
5.8.2.5 Plans identify the process for managing an incident.			
5.8.2.6 Plans identify the process for managing the communication and flow of information, both internally and externally.			
<b>5.8.3 Plans</b>			
5.8.3.1* The program includes:			
• a strategic plan			
• an emergency operations/response plan,			
• a prevention plan,			
• a mitigation plan,			
• a recovery plan, and			
• a continuity plan.			
5.8.3.2* The plans developed are:			
• individual			Mark N/A as appropriate
• integrated into a single plan document			Mark N/A as appropriate
• a combination of individual and integrated plans			Mark N/A as appropriate
5.8.3.3* The strategic plan defines: (See Section 4.1)			
<b>4.1 Program Administration</b> The entity has a documented program that includes the following:			
(1) Executive policy including vision, mission statement, roles and responsibilities, and enabling authority			
(2) Program goals, objectives, and method of program evaluation			
(3) Program plan and procedures			
(4) Applicable authorities, legislation, regulations, and/or industry codes of practice			
(5) Program budget and project schedule			
(6) Records management practices			
• the vision,			
• the mission			
• goals, and			
• objectives of the program			
5.8.3.4* The emergency operations/response plan assigns responsibilities for carrying out specific actions in an emergency			
5.8.3.5 The prevention plan shall establishes:			
• interim, and			
• long-term actions to eliminate hazards that impact the entity.			
5.8.3.6 The mitigation plan establishes:			
• interim, and			
• long-term actions to reduce the impact of hazards that cannot be eliminated.			
5.8.3.7* The recovery plan provides for <b>short-term priorities for restoration of:</b>			
• functions,			
• services,			
• resources,			
• facilities,			
• programs, and			
• infrastructure.			
<b>long-term priorities for restoration of:</b>			
• functions,			
• services,			
• resources,			
• facilities,			
• programs, and			
• infrastructure.			
5.8.3.9 The entity has made appropriate sections of the plans available to those assigned specific tasks and responsibilities therein and			
• to other stakeholders as required.			

5.8.3.8* The continuity plan identifies stakeholders that need to be notified, the critical and time-sensitive applications, alternative work sites, vital records, contact lists, processes, and functions that shall be maintained, as well as the personnel, procedures, and resources that are needed while the entity is recovering.			
<b>5.9 Incident Management.</b>			
5.9.1* The entity has developed an incident management system to direct, control, and coordinate response and recovery operations.			
<ul style="list-style-type: none"> <li>• 5.9.2* The incident management system describes specific: organizational roles,</li> </ul>			
<ul style="list-style-type: none"> <li>• titles, and</li> <li>• responsibilities for each incident management function</li> </ul>			
<b>5.9.3 The entity has established applicable procedures and policies for coordinating:</b>			
<ul style="list-style-type: none"> <li>• response,</li> <li>• continuity, and</li> <li>• <b>recovery activities with stakeholders directly involved in:</b> <ul style="list-style-type: none"> <li>○ response,</li> <li>○ continuity, and</li> <li>○ recovery operations</li> </ul> </li> </ul>			
5.9.4 The entity has established applicable procedures and policies for coordinating response, continuity, and recovery activities with appropriate authorities and resources			
<ul style="list-style-type: none"> <li>• including activation and deactivation of plans,</li> <li>• while ensuring compliance with applicable statutes or regulations.</li> </ul>			
<b>5.10 Communications and Warning.</b>			
5.10.1 Communications systems and procedures are established and regularly tested to support the program			
5.10.2 Communication procedures are established by the entity and regularly exercised to support the program.			
5.10.3* The entity has developed and does maintain the capability to notify officials and			
<ul style="list-style-type: none"> <li>• alert emergency response personnel</li> </ul>			
5.10.4 Emergency communications and warning protocols, processes, and procedures are developed.			
<ul style="list-style-type: none"> <li>• periodically tested,</li> <li>• used to alert people potentially impacted by an actual or impending emergency.</li> </ul>			
5.10.5 The entity has determined communication needs,			
<ul style="list-style-type: none"> <li>• provide capabilities to execute plans, and</li> <li>• address the interoperability of multiple responding organizations</li> </ul>			
<b>5.11* Operational Procedures.</b>			
5.11.1 The entity has developed,			
<ul style="list-style-type: none"> <li>• coordinated,</li> <li>• implemented operational procedures to support the program and execute its plans.</li> </ul>			

<p><b>5.11.2*</b> Procedures are established and implemented for response to and recovery from the consequences of those hazards identified in Section 5.3 and</p> <p><b>5.3* Risk Assessment.</b></p> <p><b>5.3.1*</b> The entity has identified hazards, monitors the identified hazards, assesses the likelihood of their occurrence, and assesses the vulnerability of people, property, the environment, and the entity itself to those hazards.</p> <p><b>5.3.2*</b> Hazards that have been evaluated for potential effect on the entity include the following:</p> <ol style="list-style-type: none"> <li>(1) Natural hazards (geological, meteorological, and biological)</li> <li>(2) Human-caused events (accidental and intentional)</li> <li>(3) Technological-caused events</li> </ol> <p><b>5.3.3*</b> The entity shall conduct an impact analysis to determine potential detrimental impacts of the hazards on the following:</p> <ol style="list-style-type: none"> <li>(1) Health and safety of persons in the affected area at the time of the incident (injury and death)</li> <li>(2) Health and safety of personnel responding to the incident</li> <li>(3)*Continuity of operations</li> <li>(4) Property, facilities, and infrastructure</li> <li>(5) Delivery of services</li> <li>(6) The environment</li> <li>(7)*Economic and financial condition</li> <li>(8) Regulatory and contractual obligations</li> <li>(9) Reputation of or confidence in the entity</li> <li>(10)*Regional, national, and international considerations</li> </ol>			
<ul style="list-style-type: none"> <li>• address health and safety</li> </ul>			
<ul style="list-style-type: none"> <li>• incident stabilization,</li> </ul>			
<ul style="list-style-type: none"> <li>• operational/business continuity</li> </ul>			
<ul style="list-style-type: none"> <li>• property conservation, and</li> </ul>			
<ul style="list-style-type: none"> <li>• protection of the environment under the jurisdiction of the entity</li> </ul>			
<p><b>5.11.3</b> Procedures, including life safety, incident stabilization, operational/business continuity, and property conservation, are established and implemented for response to, and</p>			
<ul style="list-style-type: none"> <li>• recovery from, the consequences of those hazards identified in Section 5.3</li> </ul> <p><b>5.3* Risk Assessment.</b></p> <p><b>5.3.1*</b> The entity has identified hazards, monitors the identified hazards, assesses the likelihood of their occurrence, and assesses the vulnerability of people, property, the environment, and the entity itself to those hazards.</p> <p><b>5.3.2*</b> Hazards that have been evaluated for potential effect on the entity include the following:</p> <ol style="list-style-type: none"> <li>(1) Natural hazards (geological, meteorological, and biological)</li> <li>(2) Human-caused events (accidental and intentional)</li> <li>(3) Technological-caused events</li> </ol> <p><b>5.3.3*</b> The entity shall conduct an impact analysis to determine potential detrimental impacts of the hazards on the following:</p> <ol style="list-style-type: none"> <li>(1) Health and safety of persons in the affected area at the time of the incident (injury and death)</li> <li>(2) Health and safety of personnel responding to the incident</li> <li>(3)*Continuity of operations</li> <li>(4) Property, facilities, and infrastructure</li> <li>(5) Delivery of services</li> <li>(6) The environment</li> <li>(7)*Economic and financial condition</li> <li>(8) Regulatory and contractual obligations</li> <li>(9) Reputation of or confidence in the entity</li> <li>(10)*Regional, national, and international considerations]</li> </ol>			
<p><b>5.11.4*</b> Procedures are in place to conduct a situation analysis that includes:</p>			
<ul style="list-style-type: none"> <li>• a needs assessment,</li> </ul>			
<ul style="list-style-type: none"> <li>• damage assessment, and</li> </ul>			
<ul style="list-style-type: none"> <li>• the identification of resources needed to support response and recovery operations.</li> </ul>			
<p><b>5.11.5</b> Procedures allow for concurrent recovery</p>			
<ul style="list-style-type: none"> <li>• and mitigation activities during emergency response</li> </ul>			

<p><b>5.11.6</b> Procedures are established for succession of management/government as required in 5.8.3.8.</p> <p><b>5.8.3.8*</b> The continuity plan identifies stakeholders that need to be notified, the critical and time-sensitive applications, alternative work sites, vital records, contact lists, processes, and functions that shall be maintained, as well as the personnel, procedures, and resources that are needed while the entity is recovering.</p>			
<p><b>5.12 Facilities.</b></p> <p><b>5.12.1*</b> The entity has established a primary and</p> <ul style="list-style-type: none"> <li>an alternate emergency operations center, physical or virtual, capable of managing continuity, response, and recovery operations.</li> </ul>			
<p><b>5.12.2</b> Facilities capable of supporting continuity, response, and recovery operations are identified.</p>			
<p><b>5.13 Training.</b></p> <p><b>5.13.1</b> The entity has developed and implemented a training/educational curriculum to support the program.</p> <p><b>5.13.2</b> The objective of the training is to create awareness and enhance the skills required to develop, implement, maintain, and execute the program.</p>			
<p><b>5.13.3</b> Frequency and</p> <ul style="list-style-type: none"> <li>scope of training are identified.</li> </ul>			
<p><b>5.13.4</b> Personnel are trained in the entity's incident management system.</p>			
<p><b>5.13.5</b> Training records are maintained.</p>			
<p><b>5.13.6</b> The training and education curriculum does comply with all applicable regulatory requirements.</p>			
<p><b>5.14 Exercises, Evaluations, and Corrective Actions.</b></p> <p><b>5.14.1</b> The entity evaluates program plans, procedures, and capabilities through periodic reviews.</p> <ul style="list-style-type: none"> <li>testing, and</li> <li>exercises</li> </ul>			
<p><b>5.14.2</b> Additional reviews are based on post-incident analyses and reports,</p> <ul style="list-style-type: none"> <li>lessons learned, and</li> <li>performance evaluations.</li> </ul>			
<p><b>5.14.3*</b> Exercises are designed to test individual essential elements,</p> <ul style="list-style-type: none"> <li>interrelated elements, or</li> <li>the entire plan(s).</li> </ul>			
<p><b>5.14.4*</b> Procedures are established to take corrective action on any deficiency identified.</p>			
<p><b>5.15 Crisis Communication and Public Information.</b></p> <p><b>5.15.1*</b> The entity has developed procedures to disseminate and respond to requests for pre-disaster, disaster, and post-disaster information, including procedures to provide information to internal and external audiences,</p> <ul style="list-style-type: none"> <li>including the media, and</li> <li>deal with their inquiries.</li> </ul>			
<p><b>5.15.2*</b> The entity has established and maintain an emergency public information capability that includes the following:</p> <ol style="list-style-type: none"> <li>(1) A central contact facility for the media</li> <li>(2) A system for gathering, monitoring, and disseminating emergency information</li> <li>(3) Pre-scripted information bulletins</li> <li>(4) A method to coordinate and clear information for release</li> <li>(5) The capability of communicating with special needs populations</li> <li>(6) Protective action guidelines/recommendations (e.g., shelter-in-place or evacuation)</li> </ol>			
<p><b>5.15.3</b> Where the public is potentially impacted by a hazard, a public awareness program are implemented.</p>			
<p><b>5.15.4</b> The entity has developed procedures to advise the public, through authorized agencies, of threats to people, property, and the environment.</p>			
<p><b>5.16* Finance and Administration.</b></p> <p><b>5.16.1*</b> The entity has developed financial and administrative procedures to support the program before,</p> <ul style="list-style-type: none"> <li>during, and</li> <li>after an emergency or a disaster.</li> </ul>			
<p><b>5.16.2</b> Procedures are created and maintained for expediting fiscal decisions in accordance with established authorization levels and fiscal policy.</p>			
<p><b>5.16.3</b> The procedures include, but not be limited to, the following:</p> <ol style="list-style-type: none"> <li>(1) Establishment and definition of responsibilities for the program finance authority, including its reporting relationships to the program coordinator.</li> <li>(2) Program procurement procedures</li> <li>(3) Payroll</li> <li>(4) Accounting systems to track and document costs</li> <li>(5)* Management of funding from external sources</li> </ol>			

**Substantiation:** The U.S. Department of Homeland Security has recognized NFPA 1600 since it was first mentioned in the original 9/11 Commission Report. In the report the Commission named NFPA 1600 as the National Preparedness Standard. In subsequent Amendments to the Homeland Security Act in 2004, DHS again named NFPA 1600 as the National Preparedness Standard. In 2007 Congress passed Public Law 110-53, Implementing Recommendations of the 9/11 Commission Act of 2007, it again named NFPA 1600 under Private Sector Preparedness and outlined a new certification program to be carried out by DHS.

However, the 2007 P.L. 110-53 names NFPA 1600 as a private sector preparedness standard that could be one among others, that would be selected by DHS to be part of a new Voluntary Private Sector Preparedness Certification Program. DHS plans to put in place a certification program for private sector preparedness plans on a voluntary basis. FEMA was selected to head up this effort within DHS.

FEMA has selected an accrediting body, ANAB, (an ANSI affiliate) as an accreditation entity for certifiers. FEMA is considering several emergency preparedness and business continuity standards that potential certifying bodies might use to evaluate plans. Since preparedness plans will be evaluated against standards, there is interest in having suitable evaluation tools, and even management system standards (i.e., ISO 9001), to facilitate this certification process. This application of NFPA 1600 was not contemplated during the previous revision cycle.

The 2010 edition of NFPA 1600 is expected to have an Annex with a checklist for reviewing the completeness of the elements of a preparedness plan. During their ROP meeting in Mystic, CT last August, the TC discussed processing a TIA to put this new Annex material in the current (2007) edition of NFPA 1600 to meet the new application needs identified by the DHS-FEMA certification program. This TIA is that Annex material.

**Emergency Nature:** “The document contains an error or omission that was overlooked during a regular revision process.”

## Errata Issued

The following errata have been issued. Copies of errata (if not published here) are available on the NFPA web site at <http://www.nfpa.org/errata>; from the NFPA Fulfillment Center, 11 Tracy Drive, Avon, MA 02322; or by calling 800-344-3555. Electronic products and pamphlet reprints may have this errata incorporated. For current information about the NFPA Codes and Standards, including these errata, please see [www.nfpa.org/codelist](http://www.nfpa.org/codelist).

### NFPA 70E®-2009 *Standard for Electrical Safety in the Workplace*®

Reference: Various Sections  
Errata No.: 70E-09-1

1. Shade the second paragraph on page 3 that starts “For 2009, over 1300 proposals...”
2. Delete “E,” in the last sentence of the second paragraph on page 3 that starts “For 2009, over 1300 proposals”.

3. Table 130.7(C)(6)(c) - add a “dagger” after “thereafter” in the middle column of the last line.
4. Table 130.7(C)(8)- add “*Flame Resistant*” between “*for*” and “*Textile*” in the row for Apparel.
5. Table 130.7(C)(8)- add “*s*” after “*Material*” in the row for Apparel.
6. Table 130.7(C)(9)- page 34- move the two items starting with “Outdoor” flush left to align with “Metal” above.
7. Section 130.7(C)(16)(d)- delete the comma between “When” and “trim” in the third sentence.
8. Annex A- Title of ASTM F1506 - add “*Flame Resistant*” between “*for*” and “*Textile*”.
9. Annex A- Title of ASTM F1506 - add “*s*” after “*Material*”.
10. Annex D-Relocate equation [D.2(c)] up one line to be directly above the sentence that starts “The Flash Protection Boundary”.
11. Annex D- Add “see Table D.7.3” after “working distance” in the definition of D under equation [D.7.3(c)].
12. Delete “See Table D.7.4 for typical working distances” after the sentence that starts “For voltages over 15 kv,” at the end of D.7.4.
13. Change Table D.7.4 to Table D.7.3 at the end of D.7.4.

### NFPA 1670–2009

#### *Standard on Operations and Training for Technical Search and Rescue Incidents*

Reference: Various Sections  
Errata No.: 1670-09-1

1. *Revise 5.4.1 to read as follows:*

**5.4.1** Organizations operating at the technician level for rope rescue incidents shall meet the requirements specified in Sections 5.2, 5.3, and 5.4.

2. *Revise 6.4.1 to read as follows:*

**6.4.1** Organizations operating at the technician level for structural collapse incidents shall meet the requirements specified in this chapter and the following sections:

- (1) Section 5.4 (technician level for rope rescue)
- (2) Section 7.4 (technician level for confined space search and rescue)
- (3) Section 8.4 (technician level for vehicle ~~and machinery~~ search and rescue)
- (4) Section 11.4 (technician level for trench and excavation search and rescue)
- (5) Section 12.4 (technician level for machinery search and rescue)

These items were in error due to editing reviews, renumbering of chapters and the separation in this edition of the document for the Vehicle and Machinery chapter into two separate chapters.

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## Minutes Available

The NFPA Standards Council met on October 28, 2008 in Quincy, MA. The minutes are posted on NFPA's web site at <http://www.nfpa.org/SC>. A copy of the minutes from this meeting can also be obtained by writing to: Codes and Standards Administration, NFPA, One Batterymarch Park, Quincy, MA 02169-7471.

## Call for Members

The **Committee on Aerosol Extinguishing Technology** is seeking members in all interest categories except special experts. This Committee is responsible for NFPA 2010, *Standard for Fixed Aerosol Fire Extinguishing Systems*.

The **Committee on Aerosol Products** is seeking members in the enforcing authority category only. The Committee is responsible for NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products*.

The **Committee on Agricultural Dusts** is seeking members in all interest categories except special experts. This Committee is responsible for NFPA 61, *Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities*.

The **Committee on Aircraft Maintenance Operations** is seeking members in all interest categories. This Committee is responsible for NFPA 410, *Standard on Aircraft Maintenance*.

The **Committee on Ambulances** is seeking members in all interest categories except manufacturers and users.

The **Committee on Animal Housing Facilities** is seeking members in all interest categories except users. This Committee is responsible for NFPA 150, *Standard on Fire and Life Safety in Animal Housing Facilities*.

The **Committee on Boiler Combustion System Hazards—Fluidized Bed Boilers** is seeking members in all interest categories except manufacturers. This Committee is responsible for chapters in NFPA 85, *Boiler and Combustion Systems Hazards Code*.

The **Committee on Boiler Combustion System Hazards—Fundamentals** is seeking members in all interest categories except manufacturers. This Committee is responsible for chapters in NFPA 85, *Boiler and Combustion Systems Hazards Code*.

The **Committee on Boiler Combustion System Hazards—Pulverized Fuel Systems** is seeking members in all interest categories except manufacturers and users. This Committee is responsible for chapters in NFPA 85, *Boiler and Combustion Systems Hazards Code*.

The **Committee on Boiler Combustion System Hazards—Single Burner Boilers** is seeking members in all interest categories except manufacturers, special experts, and users. This Committee is responsible for chapters in NFPA 85, *Boiler and Combustion Systems Hazards Code*.

The **Committee on Boiler Combustion System Hazards—Stoker Operations** is seeking members in all interest categories except special experts and users. This Committee is responsible

for stoker material in NFPA 85, *Boiler and Combustion Systems Hazards Code*.

The **Committee on Building Code—Board and Care Facilities** is seeking members in all interest categories. This Committee is responsible for Chapter 26 in NFPA 5000®, *Building Construction and Safety Code*®.

The **Committee on Building Code—Furnishings and Contents** is seeking members in all interest categories. This Committee is responsible for Chapter 10 in the NFPA 5000®, *Building Construction and Safety Code*®.

The **Committee on Combustible Metals and Metal Dusts** is seeking members in all interest categories except manufacturers and users. The Committee is responsible for NFPA 484, *Standard for Combustible Metals*.

The **Committee on Confined Space Safe Work Practices** is seeking members in all interest categories, especially manufacturers.

The **Committee on Data Exchange for the Fire Service** is seeking members in the following interest categories: manufacturers, research, and insurance.

The **Committee on Dry and Wet Chemical Extinguishing Systems** is seeking members in all interest categories except manufacturers. This Committee is responsible for NFPA 17, *Standard for Dry Chemical Extinguishing Systems*; and NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*.

The **Committee on Electrical Equipment in Chemical Atmospheres** is seeking members in all interest categories except special experts and users. This Committee is responsible for NFPA 496, *Standard for Purged and Pressurized Enclosures for Electrical Equipment*; NFPA 497, *Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*; and NFPA 499, *Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*.

The **Committee on Electrical Equipment Evaluation** is seeking members in all interest categories.

The **Committee on Electrical Equipment of Industrial Machinery** is seeking members in all interest categories except users or manufacturers. This Committee is responsible for NFPA 79, *Electrical Standard for Industrial Machinery*.

The **Committee on Electrical Equipment Maintenance** is seeking members in all interest categories except users. The committee is responsible for NFPA 70B, *Recommended Practice for Electrical Equipment Maintenance*.

The **Committee on Electrical Systems Maintenance** is seeking members in all interest categories except special experts. This Committee is responsible for NFPA 73, *Electrical Inspection Code for Existing Dwellings*.

The **Committee on Emergency Medical Services** is seeking individuals in the following interest categories: special experts, labor,

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insurance, and manufacturers. This Committee is responsible for NFPA 450, *Guide for Emergency Medical Services and Systems*.

The **Committee on Emergency Services Organization Risk Management** is seeking individuals in all categories except enforcers and special experts. This Committee is responsible for NFPA 1201, *Standard for Providing Emergency Services to the Public* and NFPA 1250, *Recommended Practice in Emergency Service Organization Risk Management*.

The **Committee on Explosives** is seeking members in all interest categories except manufacturers. This Committee is responsible for NFPA 495, *Explosive Materials Code* and NFPA 498, *Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives*.

The **Committee on Exposure Fire Protection** is seeking members in all interest categories except manufacturers and special experts. This Committee is responsible for NFPA 80A, *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*.

The **Committee on Fire and Emergency Services Protective Clothing and Equipment—Electronic Safety Equipment** is seeking members in the following interest categories: enforcers, labor, users and consumers. This Committee is responsible for NFPA 1800, *Standard on Electronic Safety Equipment for Emergency Services* (Proposed); NFPA 1801, *Standard on Thermal Imagers for the Fire Service* (Proposed); and NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*.

The **Committee on Fire and Emergency Services Protective Clothing and Equipment—Emergency Medical Services Protective Clothing and Equipment** is seeking members in the following interest categories: enforcers, labor and users. This Committee is responsible for NFPA 1999, *Standard on Protective Clothing for Emergency Medical Operations*.

The **Committee on Fire and Emergency Services Protective Clothing and Equipment—Hazardous Materials Protective Clothing and Equipment** is seeking members in the following interest categories: consumers, enforcers, labor, and users. This Committee is responsible for NFPA 1991, *Standard on Vapor-Protective Ensembles for Hazardous Materials Emergencies*; NFPA 1992, *Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies*; and NFPA 1994, *Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents*.

The **Committee on Fire and Emergency Services Protective Clothing and Equipment—Special Operations Protective Clothing and Equipment** is seeking members in the following interest categories: enforcers, labor, users, and consumers. This Committee is responsible for NFPA 1951, *Standard on Protective Ensemble for Technical Rescue Incidents*; NFPA 1952, *Standard on Surface Water Operations Protective Clothing and Equipment* (Proposed); NFPA 1975, *Station/Work Uniforms for Fire and Emergency Services*; and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

The **Committee on Fire Department Rescue Tools** is seeking members in all categories except manufacturers. This Committee is responsible for NFPA 1936, *Standard on Powered Rescue Tools*.

The **Committee on Fire Hose** is seeking members from all interest categories except manufacturers and users. This Committee is responsible for NFPA 1961, *Standard on Fire Hose*; NFPA 1962, *Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose*; NFPA 1963, *Standard for Fire Hose Connections*; NFPA 1964, *Standard for Spray Nozzles*; NFPA 1965, *Standard for Fire Hose Appliances*.

The **Committee on Fire Risk Assessment Methods** is seeking members in all interest categories except special experts. The Committee is responsible for NFPA 550, *Guide to the Fire Safety Concepts Tree* and NFPA 551, *Guide for the Evaluation of Fire Risk Assessments*.

The **Committee on Garages and Parking Structures** is seeking members in all interest categories except manufacturers, special experts, and users. This Committee is responsible for NFPA 88A, *Standard for Parking Structures*.

The **Committee on Handling and Conveying of Dusts, Vapors, and Gases** is seeking members in all interest categories except special experts. This Committee is responsible for NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids*; NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids*; and NFPA 655, *Standard for Prevention of Sulfur Fires and Explosions*.

The **Committee on Hazard and Risk of Contents and Furnishings** is seeking members in the following interest categories: enforcers, consumers, insurance, fire service, education, and manufacturers. This Committee is responsible for NFPA 555, *Guide on Methods for Evaluating Potential for Room Flashover*; proposed NFPA 556, *Guide for Identification and Development of Mitigation Strategies for Fire Hazard to Occupants of Passenger Road Vehicles*; and proposed NFPA 557, *Standard Fire Loads for Engineering Design of Structural Fire Resistance in Buildings*.

The **Committee on Helicopter Facilities** is seeking members in all interest categories except special expert. This Committee is responsible for NFPA 418, *Standard for Heliports*.

The **Committee on Hot Works Operations** is seeking members in all interest categories except special experts. This Committee is responsible for NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*.

The **Committee on Incinerators and Waste Handling Systems** is seeking members in all interest categories except manufacturers and special experts. This Committee is responsible for NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*.

The **Committee on Industrial and Medical Gases** is seeking members in the interest category of enforcers. This Committee is responsible for NFPA 51, *Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes*; NFPA 51A, *Standard for Acetylene Cylinder Charging Plants*; NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*; and NFPA 560, *Standard*

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for the Storage, Handling, and Use of Ethylene Oxide for Sterilization and Fumigation.

The **Committee on Internal Combustion Engines** is seeking members in the following interest categories: enforcers and users. This Committee is responsible for NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*.

The **Committee on Laser Fire Protection** is seeking members in all interest categories except special expert and users. This Committee is responsible for NFPA 115, *Standard for Laser Fire Protection*.

The **Committee on Liquid Fuel Burning Equipment** is seeking members in the following interest categories: enforcers, insurance, and users. This Committee is responsible for NFPA 31, *Standard for the Installation of Oil-Burning Equipment*.

The **Committee on Loss Prevention Procedures and Practices** is seeking members in all interest categories. This Committee is responsible for NFPA 600, *Standard on Industrial Fire Brigades*; and NFPA 601, *Standard for Security Services in Fire Loss Prevention*.

The **Committee on Manufacture of Organic Coatings** is seeking members in all interest categories except special expert. This Committee is responsible for NFPA 35, *Standard for the Manufacture of Organic Coatings*.

The **Committee on Manufactured Housing** is seeking members in all interest categories except enforcers. This Committee is responsible for NFPA 501, *Standard on Manufactured Housing*; NFPA 501A, *Standard for Fire Safety Criteria for Manufactured Home Installations, Sites, and Communities*; and NFPA 225, *Model Manufactured Home Installation Standard*.

The **Committee on Marine Fire-Fighting Vessels** is seeking members in all interest categories except manufacturers. This Committee is responsible for NFPA 1925, *Standard on Marine Fire Fighting Vessels*.

The **Committee on Marine Terminals** is seeking members in all interest categories except special interest. This Committee is responsible for NFPA 307, *Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves*.

The **Committee on Merchant Vessels** is seeking members from the commercial fishing industry and towing vessel industry. This Committee is responsible for NFPA 301, *Code for Safety to Life from Fire on Merchant Vessels*.

The **Committee on Mining Facilities** is seeking members in the following interest categories: special expert and manufacturing, specifically the manufacturers of mining equipment. This Committee is responsible for NFPA 120, *Standard for Fire Prevention and Control in Coal Mines*; and NFPA 122, *Standard for Fire Prevention and Control in Metal/Nonmetal Mining and Metal Mineral Processing Facilities*.

The **Committee on Oxygen Enriched Atmospheres** is seeking members in all interest categories except for special expert and research and testing. This Committee is responsible for NFPA

53, *Recommended Practice on Materials, Equipment and Systems Used in Oxygen-Enriched Atmospheres*.

The **Committee on Pre-Incident Planning** is seeking members in all interest categories. The Committee is responsible for NFPA 1620, *Recommended Practice for Pre-Incident Planning*.

The **Committee on Professional Qualifications—Emergency Vehicle Mechanic Technicians Professional Qualifications** is seeking members in all interest categories. This Committee is responsible for NFPA 1071, *Standard for Emergency Vehicle Technician Professional Qualifications*.

The **Committee on Professional Qualifications—Fire Department Safety Technician Professional Qualifications** is seeking members in all interest categories.

The **Committee on Professional Qualifications—Fire Investigator Qualifications** is seeking members in all interest categories except users and special expert. This Committee is responsible for NFPA 1033, *Standard for Professional Qualifications for Fire Investigator*.

The **Committee on Professional Qualifications—Fire Marshal Professional Qualifications** is seeking members in all interest categories except users and special expert. This Committee is responsible for NFPA 1037, *Standard for Professional Qualifications for Fire Marshal*.

The **Committee on Professional Qualifications—Fire Officer Professional Qualifications** is seeking members in all interest categories. This Committee is responsible for NFPA 1021, *Standard for Fire Officer Professional Qualifications*.

The **Committee on Professional Qualifications—Fire Service Instructor Professional Qualifications** is seeking members in all interest categories except users and special experts. This Committee is responsible for NFPA 1041, *Standard for Fire Service Instructor Professional Qualifications*.

The **Committee on Professional Qualifications—Industrial Fire Brigades Professional Qualifications** is seeking members in all interest categories except users and special expert. This Committee is responsible for NFPA 1081, *Standard for Industrial Fire Brigade Member Professional Qualifications*.

The **Committee on Professional Qualifications—Public Fire Educator Professional Qualifications** is seeking members in all interest categories except labor and users. This Committee is responsible for NFPA 1035, *Standard for Professional Qualifications for Public Fire and Life Safety Educator*.

The **Committee on Professional Qualifications—Public Safety Telecommunicator Professional Qualifications** is seeking members in all interest categories. This Committee is responsible for NFPA 1061, *Standard for Professional Qualifications for Public Safety Telecommunicator*.

The **Committee on Professional Qualifications—Rescue Technician Professional Qualifications** is seeking members in all categories except labor, special expert, and users. This Committee is responsible for NFPA 1006, *Standard for Technical Rescue Professional Qualifications*.

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The **Committee on Professional Qualifications—Wildfire Suppression Professional Qualifications** is seeking members in all categories. This Committee is responsible for NFPA 1051, *Standard for Wildland Fire Fighter Professional Qualifications*.

The **Committee on Public Emergency Service Communication** is seeking members in the following categories: manufacturers, installer/maintainer, and special expert. This Committee is responsible for NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*.

The **Committee on Record Protection** is seeking members in the all interest categories. This Committee is responsible for NFPA 232, *Standard for the Protection of Records*.

The **Committee on Road Tunnel and Highway Fire Protection** is seeking members in the following categories: enforcers, researchers, and users. This Committee is responsible for NFPA 502, *Standard for Road Tunnels, Bridges, and Other Limited Access Highways*.

The **Committee on Safety to Life—Board and Care Facilities** is seeking members in all interest categories. This Committee is responsible for Chapters 32 and 33 in NFPA 101, *Life Safety Code*®.

The **Committee on Safety to Life—Furnishings and Contents** is seeking members in all interest categories. This Committee is responsible for Chapter 10 in the NFPA 5000, *Building Construction and Safety Code*®.

The **Committee on Shipbuilding, Repair, and Lay-Up** is seeking members in all interest categories. This Committee is responsible for NFPA 312, *Standard for Fire Protection of Vessels During Construction, Conversion, Repair, and Lay-Up*.

The **Committee on Signaling Systems—Public Fire Reporting Systems** is seeking members in all categories except manufacturers and special experts. This Committee is responsible for chapters in NFPA 72®, *National Fire Alarm Code*®.

The **Committee on Solvent Extraction Plants** is seeking members in all interest categories except special expert. This Committee is responsible for NFPA 36, *Standard for Solvent Extraction Plants*.

The **Committee on Static Electricity** is seeking members in the categories of enforcers, insurance, and research/testing. This Committee is responsible for NFPA 77, *Recommended Practice on Static Electricity*.

The **Committee on Tank Leakage and Repair Safeguards** is seeking members in the interest categories of equipment manufacturers and insurance. This Committee is responsible for NFPA 326, *Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair*; and NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

The **Committee on Telecommunications** is seeking members in the users category, specifically from the cable industry. The Committee is responsible for NFPA 76, *Standard for the Fire Protection of Telecommunications Facilities*.

The **Committee on Textile and Garment Care Processes** is seeking members in all interest categories except manufacturers and users. This Committee is responsible for NFPA 32, *Standard for Drycleaning Plants*.

The **Committee on Transportation of Flammable Liquids** is seeking members in the following interest categories: enforcers, insurance, and manufacturers. This Committee is responsible for NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*.

The **Committee on Vehicular Alternative Fuel Systems** is seeking members in the interest category of enforcers. This Committee is responsible for NFPA 52, *Vehicular Fuel Systems Code*.

The **Committee on Wastewater Treatment Plants** is seeking members in all interest categories except manufacturers and special experts. This Committee is responsible for NFPA 820, *Standard for Fire Protection in Wastewater Treatment and Collection Facilities*.

The **Committee on Water Additives for Fire Control and Vapor Mitigation** is seeking members in the all interest categories except manufacturers and special expert. This Committee is responsible for NFPA 18, *Standard on Wetting Agents*; and NFPA 18A, *Standard on Water Additives for Fire Control and Vapor Mitigation*.

The **Committee on Water-Cooling Towers** is seeking members in all interest categories except manufacturers and installer/maintainer. This Committee is responsible for NFPA 214, *Standard on Water-Cooling Towers*.

The **Committee on Water Spray Fixed Systems** is seeking members in the interest category of enforcers. This Committee is responsible for NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*.

The **Committee on Water Tanks** is seeking members in all interest categories except manufacturers. This Committee is responsible for NFPA 22, *Standard for Water Tanks for Private Fire Protection*.

The **Committee on Wood and Cellulosic Materials Processing** is seeking members in the following interest categories: enforcers and users. This Committee is responsible for NFPA 664, *Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities*.

Anyone interested in serving on one of these committees or on any NFPA technical committee can download a technical committee application from NFPA's web site at <http://www.nfpa.org/codesTC>; or by a written request to: Codes and Standards Administration, NFPA, One Batterymarch Park, Quincy, MA 02169-7471.

## Coming Events Committee Calendar

### March

17–18     Aerosol Extinguishing Technology, Orlando, FL

17–19	Emergency Management and Business Continuity, Bridgeton, MO	28–May 1	Electric Generating Plants, San Antonio, TX
24–26	Protective Clothing and Equipment—Special Operations, Austin, TX	<b>May</b>	
25	Fire Risk Assessment Methods, Microsoft Live Meeting	5	Water Mist Fire Suppression Systems, Microsoft Live Meeting
26–27	Aircraft Rescue and Fire Fighting, San Diego, CA	6–8	Cultural Resources, Aberdeen, Scotland
<b>April</b>		11–12	Combustible Metals and Metal Dusts, Baltimore, MD
2–3	Professional Qualifications—Public Fire Educator Professional Qualifications, Metairie, LA	<b>June</b>	
3–5	Electronic Safety Equipment, San Diego, CA	8–11	NFPA Conference & Expo, Chicago, IL
7	Industrial Trucks, Microsoft Live Meeting	<b>August</b>	
7–9	Water Additives for Fire Control and Vapor Mitigation, Denver, CO	4–6	NFPA Standards Council, NFPA Headquarters, Quincy, MA
21	Fire Protection for Nuclear Facilities, Microsoft Live Meeting	<b>October</b>	
21–22	Mining Facilities, St. Louis, MO	1–2	Professional Qualifications—Emergency Vehicle Mechanic Technicians Professional Qualifications, San Antonio, TX
21–23	Airport Facilities, Tukwila, WA	27–28	NFPA Standards Council, San Francisco, CA
24	Aircraft Maintenance, Tukwila, WA		
27–May 1	TCC National Electric Code, Longboat Key, FL		
28	Fire Tests, San Antonio, TX		
28–29	Portable Fire Extinguishers, Northbrook, IL		
28–29	Smoke Management Systems, Tampa, FL		
28–30	Forest and Rural Fire Protection, Tucson, AZ		

## Committees Soliciting Proposals

The committees for the following documents are planning to begin preparation of their reports. In accordance with the Regulations Governing Committee Projects, committees are now accepting proposals for recommendations on content for the documents listed below. Proposals received by 5:00 p.m. ET on the closing date indicated will be acted on by the committee, and that action will be published in the committee's report. Proposals must be submitted to Codes and Standards Administration on proposal forms which are available in the back of all NFPA documents or from NFPA headquarters. (NOTE: For information on specific committee meeting dates, contact Codes and Standards Administration, NFPA.) Copies of **new document** drafts are available from Codes and Standards Administration, NFPA, One Batterymarch Park, Quincy, MA 02169-7471, or they may be downloaded from NFPA's web site at <http://www.nfpa.org/codelist>. If you need a current edition of a document, please contact NFPA, Fulfillment Center, 11 Tracy Drive, Avon, MA 02322, or call 800-344-3555.

Document No./ Edition	Title	Proposal Closing Date	Meeting Reporting
†NFPA 2–P*	Hydrogen Technologies Code	5/29/2009	F2010
†NFPA 3–P*	Standard for the Commissioning and Integrated Testing of Fire Protection and Life Safety Systems	5/29/2009	F2010
†NFPA 12–2008	Standard on Carbon Dioxide Extinguishing Systems	5/29/2009	F2010
NFPA 16–2007	Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems	5/29/2009	F2010
NFPA 17–2009	Standard for Dry Chemical Extinguishing Systems	5/23/2011	F2012
NFPA 17A–2009	Standard for Wet Chemical Extinguishing Systems	5/23/2011	F2012
NFPA 32–2007	Standard for Drycleaning Plants	5/29/2009	F2010
NFPA 51A–2006	Standard for Acetylene Cylinder Charging Plants	5/29/2009	F2010
NFPA 59–2008	Utility LP-Gas Plant Code	11/24/2009	A2011
NFPA 70E–2009	Standard for Electrical Safety in the Workplace®	1/5/2010	A2011
NFPA 75–2009	Standard for the Protection of Information Technology Equipment	5/28/2010	F2011
†NFPA 76–2009	Standard for the Fire Protection of Telecommunications Facilities	5/28/2010	F2011
NFPA 79–2007	Electrical Standard for Industrial Machinery	5/29/2009	F2010
NFPA 85–2007	Boiler and Combustion Systems Hazards Code	5/8/2009	F2010
NFPA 101®–2009	Life Safety Code®	7/31/2009	A2011
NFPA 102–2006	Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures	5/29/2009	F2010

NFPA 251–2006	Standard Methods of Tests of Fire Resistance of Building Construction and Materials	5/29/2009	F2010
NFPA 253–2006	Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source	5/29/2009	F2010
NFPA 262–2007	Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces	5/29/2009	F2010
NFPA 265–2007	Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls	5/29/2009	F2010
NFPA 285–2006	Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components	5/29/2009	F2010
NFPA 286–2006	Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth	5/29/2009	F2010
NFPA 385–2007	Standard for Tank Vehicles for Flammable and Combustible Liquids	5/28/2010	F2011
NFPA 418–2006	Standard for Heliports	5/29/2009	F2010
NFPA 730–2008	Guide for Premises Security	5/29/2009	F2010
NFPA 731–2008	Standard for the Installation of Electronic Premises Security Systems	5/29/2009	F2010
NFPA 901–2006	Standard Classifications for Incident Reporting and Fire Protection Data	5/29/2009	F2010
NFPA 921–2008	Guide for Fire and Explosion Investigations	5/29/2009	F2010
NFPA 1192–2008	Standard on Recreational Vehicles	5/29/2009	F2010
NFPA 1194–2008	Standard for Recreational Vehicle Parks and Campgrounds	5/29/2009	F2010
NFPA 1401–2006	Recommended Practice for Fire Service Training Reports and Records	5/29/2009	F2010
NFPA 1404–2006	Standard for Fire Service Respiratory Protection Training	5/29/2009	F2010
NFPA 1405–2006	Guide for Land-Based Fire Fighters Who Respond to Marine Vessel Fires	5/29/2009	F2010
NFPA 1906–2006	Standard for Wildland Fire Apparatus	5/29/2009	F2010
NFPA 1912–2006	Standard for Fire Apparatus Refurbishing	5/29/2009	F2010
NFPA 1971–2007	Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting	12/4/2009	F2011
NFPA 1981–2007	Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services	12/4/2009	F2011
NFPA 1983–2006	Standard on Life Safety Rope and Equipment for Emergency Services	5/29/2009	F2010
NFPA 1984–P*	Standard on Respirators for Wildland Fire Fighting Operations	5/29/2009	F2010
NFPA 2001–2008	Standard on Clean Agent Fire Extinguishing Systems	5/29/2009	F2010
NFPA 5000®–2009	Building Construction and Safety Code®	7/31/2009	A2011

P\* Indicates proposed document

† Change in proposal closing date or cycle