EXHIBIT 121

No. 99-40632

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

PETER VEECK, doing business as RegionalWeb,

Appellant,

v.

SOUTHERN BUILDING CODE CONGRESS INTERNATIONAL INC.,

Appellee.

Appeal from the United States District Court
for the Eastern District of Texas
Honorable David Folsom

Brief for Amici Curiae American Medical Association, American National Standards Institute; American Society of Association Executives; American Society of Heating, Refrigerating and Air-Conditioning Engineers; American Society of Mechanical Engineers; National Fire Protection Association; Texas Municipal League; and Underwriters Laboratories Inc. Filed in Support of Appellee Southern Building Code Congress International Inc. Supporting Affirmance

---

AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.

Patrick F. McGowan
Michael Lowenberg
1700 Pacific Avenue, Suite 4100
Dallas, Texas 75201-4675
(214) 969-2800
(214) 969-4343 (facsimile)
ATTORNEYS FOR AMICI CURIAE

SUPPLEMENTAL STATEMENT OF INTERESTED PARTIES

Peter Veeck, doing business as RegionalWeb,
Appellant,

v.

No. 99-40632

Southern Building Code Congress International Inc.,
Appellee.

The undersigned counsel of record certifies that the following listed persons have an interest in the outcome of this case. These representations are made in order that the judgment of this court may evaluate possible disqualification or recusal.

American Medical Association, Amicus Curiae
American National Standards Institute, Amicus Curiae
American Society of Association Executives, Amicus Curiae
American Society of Heating, Refrigerating and Air-Conditioning Engineers, Amicus Curiae
American Society of Mechanical Engineers, Amicus Curiae
National Fire Protection Association, Inc., Amicus Curiae
Texas Municipal League, Amicus Curiae
Underwriters Laboratories Inc., Amicus Curiae

Patrick F. McGowan
Michael Lowenberg
AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.
1700 Pacific Avenue, Suite 4100
Dallas, Texas 75201-4675
Counsel for Amici Curiae

Patrick F. McGowan
Attorney of Record for Amici Curiae

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Statutes

Other Authorities

CONCISE STATEMENT OF IDENTITY OF AMICI CURIAE, INTEREST IN THE CASE, AND SOURCE OF AUTHORITY TO FILE

The model building-related codes involved in the present case are part of a large genre of creative works, including model codes, standards and other reference works (hereinafter collectively referred to as "standards"), that are developed by private, not-for-profit organizations and are made available for the use and adoption by government instrumentalities throughout the United States. Amici curiae are all organizations that are involved in the creation or use of these socially valuable works. Specifically, amici fall into three categories, as follows.

a. The Administrator and Coordinator of Voluntary Standards Development in the United States.

Amicus curiae, American National Standards Institute (ANSI), is a nonprofit membership organization which, for more than 75 years, has administered and coordinated the voluntary standardization system in the United States. ANSI is a unique partnership of approximately 1,300 companies, 250 professional, technical, trade, labor, academic and consumer organizations and some 30 government agencies. The members of the ANSI federation develop standards and otherwise participate in their development. ANSI facilitates this system by accrediting standards developers and accrediting groups to participate in the development of international standards, and it provides a forum for addressing policy issues related to domestic and international standardization.

b. Standards Development Organizations.

Amici curiae, American Medical Association (AMA), American Society of Association Executives (ASAE), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), American Society of Mechanical Engineers (ASME), National Fire Protection Association (NFPA) and Underwriters Laboratories Inc. (UL) (hereinafter, collectively referred to, along with ANSI, as "the standards developer amici") are all not-for-profit organizations that either develop or whose members are involved in developing copyrighted standards which are widely used and adopted by local, state and federal governments, as well as the private sector. Amici use the revenue generated from the sales and licensing of their copyrighted standards to support the creation, refinement and updating of their standards. An additional description of each individual amici may be found in the Motion for Leave to File Brief of Amici Curiae in Support of Appellee, on file with this Court.

c. Organization Representing Certain Government Beneficiaries of Private Standards Development.

The Texas Municipal League (TML) is a non-profit association that represents the interests of its 1,044 member cities (of the 1,197 incorporated cities in Texas). It accomplishes its mission by providing legislative services, legal advice, educational training, and publications to the governing bodies, officials, and employees of those cities. The TML's member cities routinely adopt by

reference in their laws or otherwise utilize and rely on copyrighted model codes and standards and other reference works.

The codes and standards created and administered by private organizations such as the standards developer amici and their members (and SBCCI) are sought for use by both the private sector and government. In particular, these codes and standards are widely used and adopted by local and state governments and federal authorities throughout the United States who do not otherwise have the necessary facilities and resources to develop these safety standards independently. Private standards developers like those represented by the standards developer amici and their members support their standards development activities through revenues derived from the publication, sale and licensing of codes and standards made possible by the protection of the copyright laws. The ability to maintain and coordinate these standards writing activities would be severely undercut if the law were to be interpreted in a manner by which this work product could be indiscriminately copied by others because of loss of copyright protection.

Amici believe that the position argued by appellant Veeck is an ill-advised departure from established principles of law and logic. The copyrighted SBCCI codes at issue in this case are part of a large genre of creative works developed by not-for-profit standards developers such as the standards developer amici and their members and relied upon by governments such as the municipalities represented

by amicus Texas Municipal League. Standards developers create and maintain at their own substantial expense their copyrighted codes, standards and reference works and make them available to interested parties, government regulators, and the public at large. Loss of copyright protection for these works would drastically undermine the ability of standards developers to fund the ongoing creation and updating of these important works, and would therefore harm the governments and the public who benefit from and rely on the work of these standards developers.

For these reasons, amici have a direct and vital interest in the issues presented to this Court by the present case, and believe that they can provide the Court with additional perspective on the important policy considerations bearing on these issues.

ARGUMENT

The appellant Veeck's primary contention is that, because SBCCI's privately authored standards[1] have been incorporated by reference in the law of the cities of Anna and Savoy, Texas, those works have forever lost their copyright protection. If this sweeping contention were accepted, it would profoundly, deleteriously affect both private standards developers as well as the governments – state, local, and federal – who reap the benefits of private standards development. In Part A of the Argument which follows, amici address the public policy considerations which weigh against such a result. Amici then address, in Parts B and C, Veeck's principal legal arguments urging invalidation of copyright protection for codes and standards which have been referenced in laws.[2]

---

[1] For convenience, this brief uses the terms "standards" or "codes and standards" for works ranging from model codes, to compilations of rules, standards, specifications, guidelines, recommended practices, works of nomenclature, and other reference works created by private organizations for the use of the private sector and for government reference in statutes, regulations and ordinances.

[2] Amici have principally addressed the arguments by Veeck of due process and free expression and the applicability of the copyright merger doctrine. This brief does not, therefore, address in detail the issues framed by Veeck in terms of waiver, fair use, or copyright misuse. These doctrines either do not apply or, as used by Veeck, are merely a recasting in another form of his due process/free expression argument that the public right of access to and notice of the law renders void the copyrights to any work that has been incorporated by reference in a law.

The waiver argument, for example, as argued by Veeck, is that SBCCI, although it expressly reserved its copyrights, nevertheless waived them by allowing towns to adopt its model codes by reference "knowing that the codes would be transformed into something which, by their very nature, should be in the public domain." (Veeck's Br., VI.B. at 14.) Veeck's waiver argument, therefore, is wholly dependent on the acceptance of Veeck's due process argument that SBCCI's works would enter the public domain upon adoption by reference in the law of Savoy and Anna. Amici address that due process argument at Part B of the Argument.

A. The Destruction of Copyrights in Model Codes and Standards Would Have Damaging Consequences, Not Just for the Non-Profit Organizations Which Develop These Works, but for the Local, State and Federal Governments Which, in Ever Increasing Numbers, Rely on Those Organizations to Produce High Quality Codes and Standards for Government Use and Adoption.

Veeck's position that a work such as the SBCCI model codes enters the public domain the moment any government instrumentality adopts the work by reference in a law potentially has the broadest implications for copyright holders like those represented by the standards developer amici who develop codes and standards which they make available for government use and adoption. More importantly, that position, if accepted, would harm governments such as those represented by amicus TML and would thwart the public interest in encouraging creativity in the development of original works for the use and adoption by these governments.

Similarly, Veeck's argument that his copying is a fair use is suffused with the false assumptions, also addressed in Part B, that SBCCI's work is already in the public domain or that it is, absent Veeck's copying, unavailable in a constitutional due process sense. (*See* Veeck's Br., VI.D. at 2.) In arguing for fair use, moreover, Veeck can cite to no case holding, as he would have this Court hold, that the copying verbatim of an entire copyrighted work onto the Internet for the purpose of providing unlimited, free downloading by the public could constitute a fair use. Finally, as to copyright misuse, Veeck does not even claim the existence, much less present evidence, of any agreement such as that condemned as a misuse in *Practice Management Information Corp. v. American Medical Ass'n*, 121 F.3d 516, 520-521 (9th Cir. 1997), *modified*, 133 F.3d 1140 (9th Cir. 1998), *cert. denied*, 119 S. Ct. 40 (1998).

All of these issues are treated in the district court's Memorandum and Order and in SBCCI's brief, which amici wholly support. In addition, amicus, NFPA, briefed the waiver and misuse issues in its Amicus Brief and its Supplemental Amicus Brief, filed in the district court, copies of which are a part of the record before this Court.

To appreciate those implications one must understand, first, that the creation of high quality, up-to-date codes and standards is very costly and that private standards developers rely on copyright protection, and the ability it affords to generate revenue from the sales and licensing of the works they create for government adoption, to generate the revenues necessary to sustain their on-going standards creation, refinement and updating.

The development of useful, high-quality, up-to-date, consensus-based standards is a costly, time consuming process. Drafting standards requires wide-ranging creative input from a variety of concerned constituencies and sources of expertise, including representatives of the consuming public, industry, the academy, and the public safety and regulatory community. In addition, the standards drafting process draws heavily on the administrative, technical, and support services provided by the organizations that develop them. The NFPA, for example, develops its proprietary 312 fire safety codes and standards through a voluntary consensus process approved by ANSI, the body which oversees private consensus standards developers to ensure openness, due process and the participation of a balance of relevant interests. The NFPA, for example, arranges for the hundreds of standards-related meetings that take place yearly. It provides logistical, administrative and clerical support to the 229 committees that draft and regularly update standards, and it maintains a large permanent staff of engineers,

fire service experts, administrators, and clerical staff who support the NFPA's standards development activities.

Moreover, the costs of developing standards by private, non-profit standards developers are commonly underwritten, in whole or significant part, by the revenues made possible from the copyright-protected sales and licensing of the standards themselves. Without copyright protection, others would be free to expropriate and sell or give away the works created by standards developers such as amici, and the ability of these standards developers to sustain their standards development activities, as well as other mission related programs, would be thwarted since they could no longer rely on the copyright laws to protect the revenues they realize from sales and licensing of their works.[3]

The impact of copyright destruction, however, would be felt by more than just the standards developers whose copyrights would be lost. Private standards development provides federal, state and local governments with valuable and high quality codes and standards at no cost to taxpayers, and governments at all levels

---

[3] As noted in a congressional report, a large segment of the standards development community consists of non-profit, general membership organizations such as amici, which are devoted to public safety or other charitable purposes. *See* U.S. Congress, (Office of Technology Assessment), *Global Standards: Building Blocks for the Future* 50-51 (1992). The congressional report confirms that these types of standards development organizations are heavily dependent on the sale of their standards to support their activities. *See id.*; *see also* National Research Council, *Standards, Conformity Assessment, and Trade into the 21st Century* 32 (National Academy Press 1995). It is these types of organizations that, through their technical expertise, independence, and the openness and fairness of their processes produce the standards most desirable for government adoption and use.

have recognized the importance of privately developed codes and standards by adopting them in great numbers.

The federal government, for example, relies heavily on privately developed standards. It has been estimated to be the single largest user of private sector developed standards. *See* National Institute of Standards & Technology (U.S. Department of Commerce), "Standards Activities of Organizations in the United States" (NIST Special Publication 806, February 1991); *see, e.g.*, 3 Index to the Code of Federal Regulations at 2090-2091 (Congressional Information Service, Inc. 1999) (indexing over 200 citations in the Code of Federal Regulations to copyrighted NFPA standards).

Moreover, in recognition of the benefits of private standards development, the federal government has made it a policy to adopt such standards unless there is a valid reason for not doing so. For example, the Office of Management and Budget ("OMB") has directed all federal agencies to incorporate, "in whole, in part, or by reference" privately developed standards for regulatory and other activities "whenever practicable and appropriate," thereby "[e]liminat[ing] the cost to the Government of developing its own standards." 63 Fed. Reg. 8545, 8554-8555 (Feb. 19, 1998) (OMB Notice of Final Revision of Circular A-119). For this initiative to succeed, private authors must have an incentive to create works useful to the government. OMB thus requires agencies to "observe and protect the rights

of the copyright holder and any other similar obligations." *Id.* at 8555. Indeed, the federal policy of utilizing privately developed standards is so strong that "[i]n February 1996, Section 12(d) of Public Law 104-113 . . . was passed by the Congress in order to establish the policies of the existing OMB Circular A-119 in law." *Id.* at 8546; *see* National Technology Transfer and Advancement Act of 1995, Pub. L. No. 104-113, § 12(d), 110 Stat. 775, 783 (1996). Under Veeck's position, however, government use or adoption of a private work as part of its regulatory scheme would, by definition, invalidate the author's copyright.

At the state and local level, it is fair to say that governments could not effectively function without privately developed codes and standards. Virtually all safety regulation requires expertise and experience that is beyond the resources of such governments alone to marshal. While complete statistics are not available due to the multiplicity of state and local governmental entities and methods of regulation, it is clear that many state and local regulations rely, in whole or in part, on privately developed standards.[4] *See Directory of Building Codes & Regulations* (National Conference of States on Building Codes and Standards, Inc. 1998 ed.)

[4] A multitude of state laws, for example, adopt or mandate the regulatory adoption of privately authored works. *See, e.g.*, WASH. REV. CODE § 19.27.031 (1999) (adopting the model Uniform Building Code and related standards). Many states, moreover, have enacted express legislative approval of and methods for state and municipal adoption of privately developed works through incorporation by reference. *See, e.g.*, 65 ILL. COMP. STAT. ANN. 5/1-3-1 to -6 (West 1999).

(two volume listing of state and selected municipal adoptions of building-related model codes and standards).

The prime example of this reliance is in the regulation of buildings and structures and related systems such as heating, plumbing and electricity. Virtually all state and local building codes, for example, are based on one of the three model building codes currently available in the United States. Amicus NFPA, for example, has, for close to 100 years, developed and updated every three years an electrical code called the National Electrical Code®. The 1999 edition is a prodigious work exceeding 900 pages and covering a vast array of subjects related to electrical installations. As its name suggests, it has become the national standard for electrical installations and has been adopted in one form or another, depending on state governmental structures, in every state in the union as well as in Puerto Rico and Guam. As another example, amicus ASHRAE, for over 100 years, has provided similar standards and guidelines in the field of indoor environments.

Standards developers like amici, in furtherance of their non-profit fire safety and welfare purposes, offer and encourage the use of their works by governmental entities in setting safety and other regulations and in administering government programs. They do so with the knowledge that these works will have to be made available to anyone who needs them in order to comply with the law or to

participate in the government programs which incorporate those works. Indeed, for these works to have any utility for the governments that utilize them, they must be made generally available, and it is in the interests of the standards developers to see that they are.

The ability of private standards developers to underwrite the development and updating of their standards would be destroyed by the loss of copyright protection, since, without such protection, others could freely publish and sell or otherwise exploit their work product without contributing to any of the substantial development costs. The reduction or elimination of private standards development activity that would result from the loss of copyright protection for private standards developers who developed standards for government use would be a severe loss to the governments and the public who so greatly benefited from these activities. As this brief next discusses, the law does not require a result that would be so harmful to the public interest.

B. There is No Judicially Created Exception to the Copyright Laws for Privately Authored Works that Have Been Referenced in a Law, and No Constitutional Principle of Due Process or Free Expression Requires the Creation of Such an Exception.

Veeck can cite to no case that has held invalid the copyright of a privately authored work on the grounds that it has been incorporated by reference in a law. Indeed, recent precedent is to the contrary. *See Practice Management Info. Corp. v. American Med. Ass'n*, 121 F.3d 516 (9th Cir. 1997), *modified*, 133 F.3d 1140

(9th Cir.), *cert. denied*, 119 S. Ct. 40 (1998) ("PMIC"); *CCC Info. Servs., Inc. v. MacLean Hunter Mkt. Reports, Inc.*, 44 F.3d 61, 73-74 (2d Cir. 1994). A holding invalidating a copyright on these grounds would, moreover, be contrary to the Copyright Act which, by its terms, denies copyright protection only to copyrightable works which have been originally created by the federal government or its officials, 17 U.S.C. §§ 101, 105 (1999),[5] and which prohibits the seizure or expropriation of a copyright through action by a governmental entity, 17 U.S.C. § 201(e) (1999). Such a holding would also be contrary to firmly established government policy, and to the wide practice of federal, state and local governments throughout the United States in adopting and referencing, without controversy, copyright-protected, privately authored works. *See* discussion *supra* Part A of Argument.

In the face of statute, policy, and practice to the contrary, Veeck invokes constitutional principles of due process and free expression. He claims that these principles require the destruction of a copyright owner's property rights in a privately developed standard the moment that any governmental authority adopts it, and that this is required in order to ensure the public's right to full access to and

[5] Indeed, in enacting Sections 101 and 105 of the Copyright Act, Congress was careful to ensure that "publication or other use by the Government of a private work would not affect its copyright protection in any way." H.R. REP. NO. 1476, at 60 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5672.

comment on the laws. The only question, therefore, is whether as a matter of constitutional law, this Court should reject the conclusion of the district court and establish the new principle that Veeck espouses to invalidate SBCCI's otherwise valid copyrights. It should not.

Veeck argues that copyright invalidation is necessary in order to allow the public to "discuss the law." However, this case does not involve any attempt by SBCCI to withhold the work or otherwise prevent discussion of the municipal codes, nor is there any evidence of record that it has used its copyright protection to do so. Absent such evidence, there simply is no issue of free expression raised. *See Schnapper v. Foley*, 667 F.2d 102, 115-116 (D.C. Cir. 1981) (First Amendment claim that copyright in government commissioned work should be voided to guard against government withholding of work rejected where there was no tenable allegation in the case that anyone had been denied access to the work).

Veeck also argues that copyright invalidation is necessary to ensure public availability of government adopted, privately authored works. He invokes the due process principle that individuals cannot be held responsible for complying with the law unless they are given fair notice of what the law requires. As the record in this case demonstrates, however, there simply was no issue as to notice or the availability of the municipal codes, which, as the district court pointed out, Veeck, himself, was easily able to obtain.

As Veeck's easy access to SBCCI's work demonstrates, model codes and standards are frequently more accessible than government drafted works. In sharp contrast to the drafters of a local ordinance who might meet availability requirements exclusively by providing copies for inspection at the municipal clerk's office,[6] standards developers have every incentive to make their works widely available. Quite apart from the substantial financial incentives to standards developers to achieve wide sales and distribution of their standards, standards developers who develop standards for government use understand that any restriction on access to governmentally adopted standards would result in the loss of confidence and reliance of its beneficiary governments. It is easily foreseeable that, were a standards developer ever to attempt to restrict availability of codes and standards, governments would be unwilling to continue to adopt the developer's work.

Indeed, codes and standards developers typically make their codes and standards available through multiple distribution channels, including, depending on the organization, catalog, telephone, Internet and retail sales, and they offer them in a variety of formats, including individual pamphlets, complete bound sets, loose-leaf subscription services, and various electronic products. In sum, among a

[6] *See, e.g.*, OR. REV. STAT. § 221.330 (1999) (requiring three copies of any codes adopted by reference to be on file in the office of the city recorder for use and examination by the public).

standards developer's best assurance of revenue, and best arguments for governmental adoption, is the wide and easy availability of its codes and standards. For this reason, despite the long and widespread tradition in the United States of governmental adoption of model codes and standards, Veeck can point to no reported case where lack of notice has been raised as a defense to a failure to comply with a provision contained in a model code or standard. Nor has he presented evidence of lack of notice to anyone in this case.

But even if there did arise a case in which a real question of availability in any constitutional sense were raised, the requested remedy of total copyright invalidation, by destroying the powerful incentive copyright protection provides to create such works, would not be appropriate. As all the recent precedent teaches, so drastic and ultimately destructive a remedy is simply not required to ensure the public's access to the law.[7]

In *PMIC*, for example, the Ninth Circuit affirmed a district court's ruling that the American Medical Association's copyright in a publication known as the Physician's Current Procedural Terminology (the "CPT") was not invalidated when a governmental entity, the Health Care Financing Administration adopted the

---

[7] Indeed, while addressing no actual due process notice problem, a rule that the adoption of a standard by a state legislature or administrative body deprived the copyright owner of its property would, as one court has observed, "raise very substantial problems under the Takings Clause of the Constitution." *CCC Info. Servs., Inc.*, 44 F.3d at 74. This Court should construe the copyright law to foreclose these problems. *See Roth v. Pritikin*, 710 F.2d 934, 939 (2d Cir. 1983); *accord NLRB v. Catholic Bishop*, 440 U.S. 490, 501 (1979).

CPT as part of its regulations. *See PMIC*, 121 F.3d at 518-520. The court, noting that the AMA's copyright "pose[d] no realistic threat to public access" and that the AMA "ha[d] no incentive to limit or forgo publication," specifically rejected the assertion that the due process requirement of free access to the law requires a holding of copyright invalidity. *Id.* at 519.

In *CCC Information Services, Inc.*, 44 F.3d at 74, the Second Circuit rejected a similar claim, declining to invalidate the copyright on a privately developed listing of automobile values that several states required insurance companies to use in calculating insurance awards. Agreeing that invalidation of copyright was not necessary to ensure public access, the court pointed to the countervailing good that copyright protection affords in spurring the creation of creative works useful to government. In the court's view, "a hold[ing] that a state's reference to a copyrighted work as a legal standard . . . results in loss of the copyright . . . is antithetical to the interests sought to be advanced by the Copyright Act." *Id. See also Texas v. West Publ'g Co.*, 882 F.2d 171, 177 (5th Cir. 1989) (rejecting similar due process claim because "there is no evidence that anyone is being denied access" to the copyrighted work in question).

Even in a First Circuit case on which Veeck attempts to rely, the court, reviewing the grant of a preliminary injunction, expressly declined to rule on the merits of a claim that the BOCA building code, a model building code like that of

SBCCI, had lost its copyright because of state adoption by reference. *See Building Officials & Code Admin. v. Code Tech., Inc.*, 628 F.2d 730 (1st Cir. 1980) ("*BOCA*"). In *BOCA*, the court expressed concern over early precedent, such as *Banks v. Manchester*, 128 U.S. 244 (1888), which ruled that judicial opinions and statutes are in the public domain. Even so, the *BOCA* court acknowledged that an interpretation of these cases as limiting the rule to works created by government itself, "is not without foundation." *BOCA*, 628 F.2d at 734. Moreover, while reversing the district court's grant of a preliminary injunction against copying the work, the court stressed that it was not "ruling definitely on the underlying issues," and left open a possible ruling that would "accommodate modern realities" evident in the "trend towards state and federal adoption" of model standards. *Id.* at 732, 736. As the court observed:

> Groups such as BOCA serve an important public function; arguably they do a better job than could the state alone in seeing that complex yet essential regulations are drafted, kept up to date and made available. . . . [T]he rule denying copyright protection to judicial opinions and statutes grew out of a much different set of circumstances than do these technical regulatory codes . . . .

Id. at 736.

Rather than wholly invalidating a copyright, it would be far more rational to apply due process principles in an individual case, should one ever arise, of a person actually deprived of notice of laws than to destroy on a blanket basis all of the copyrights of private standards developers together with the broad public

benefit that such copyrights ensure. *See PMIC*, 121 F.3d at 519 (suggesting other remedies for a case of actual unavailability, including fair use and due process defenses for infringers and mandatory licensing at a reasonable royalty.)

As Professor Nimmer has observed in commenting on the argument that privately developed standards should enter the public domain upon adoption into law:

> Th[e] limitation on copyright [considered in *BOCA*] was predicated on the public's due process right "to have notice of what the law requires of them so that they may obey it and avoid its sanctions." It is questionable whether this rationale justifies the denial of copyright to a private person or group who produces such a model code. . . . Failure to observe such due process notice requirements would certainly constitute a defense for one charged with violation of the nonpublicized law. It might well also justify, and perhaps require, the recognition of a fair use defense by one who reproduced such copyrighted code for his own personal use. It may be doubted, however, whether it should also immunize from copyright liability a competitive commercial publisher . . . , at least where the copyright owner of the code, or its licensee, has published and adequately disseminated authorized copies of the code. To vitiate copyright, in such circumstances, could, without adequate justification, prove destructive of the copyright interest, in encouraging creativity in connection with the increasing trend toward state and federal adoptions of model codes.

1 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 5.06[C], at 5-91 to 5-92 (1999) (footnotes omitted); *see also CCC Info. Servs., Inc.*, 44 F.3d at 73-74 & n.30 (citing Professor Nimmer's position with approval); *PMIC*, 121 F.3d at 518-520.

As the above-quoted passage suggests, the copyright laws exist, not primarily for the benefit of authors, but for the benefit of the public in that, by giving authors the exclusive rights to their works, copyright serves to stimulate writing and invention that will be of benefit to the public. *See generally* 1 Nimmer & Nimmer, *supra*, § 1.03[A]. Privately developed codes and standards designed for government use and adoption provide the most direct and cogent example imaginable of how copyright protection, by allowing private citizens to underwrite the development costs of these codes and standards, serves to benefit the public. The law need not and should not be interpreted in a way that thwarts this public benefit. *See* discussion *supra* Part A of Argument (discussing the public benefits of private standards development).

C. Because The Ideas Embodied In SBCCI's Codes Can Be Expressed In Many Ways, The Merger Doctrine Does Not Apply.

Veeck appeals to the "merger doctrine" in support of his claim that SBCCI's codes are not protected by copyright. The argument is meritless.

A copyright protects the expression of an idea but not the idea itself. Under the merger doctrine, however, expression is not protected if it "represent[s] the only means of expressing the ideas" in question. *Educational Testing Servs. v. Katzman*, 793 F.2d 533, 540 (3d Cir. 1986). *See generally CCC Info. Servs., Inc.*, 44 F.3d at 68-73. This doctrine is limited to cases in which, as a conceptual matter, "a given idea is inseparably tied to a particular expression." 3 Nimmer &

Nimmer, *supra*, § 13.03[B][3], at 13-67.[8] Indeed, cases involving merger are cases in which, unlike here, an idea was *conceptually* susceptible to only one form of expression.[9] Here, the ideas contained in the SBCCI's codes, as well as other privately developed codes and standards, are plainly susceptible to multiple forms of expression.

Veeck, of course, does not contend that idea and expression merged at the time the SBCCI received a copyright on its works. His argument is rather that merger occurred only later at the point that the work was incorporated into the law of Anna and Savoy. The argument misconstrues the merger doctrine, which

---

[8] *Accord Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832, 840 (Fed. Cir. 1992) (merger doctrine inapplicable "so long as alternate expression are available"); *Apple Computer, Inc. v. Formula Int'l, Inc.*, 725 F.2d 521, 525 (9th Cir. 1984) (merger doctrine inapplicable when the "idea is capable of various modes of express") (quotations omitted); *Infodek, Inc. v. Meredith-Webb Printing Co.*, 830 F. Supp. 614, 623 (N.D. Ga. 1993) ("dispositive issue is whether a particular [idea] is capable of being expressed in various different ways").

[9] *See Bellsouth Adver. & Publ'g Corp. v. Donnelly Info. Publ'g, Inc.*, 999 F.2d 1436, 1442-43 (11th Cir. 1993) (*en banc*) (organizational structure of yellow pages cannot be copyrighted in which no serious alternatives exist); *Sega Enters. Ltd. v. Accolade Inc.*, 977 F.2d 1510, 1524-26 & n.7 (9th Cir. 1992) (portion of computer program cannot be copyrighted where it is "functional" and not "creative"); *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 707-710 (2d Cir. 1992) (same); *Kern River Gas Transmission Co. v. Coastal Corp.*, 899 F.2d 1458, 1464 (5th Cir. 1990) (map publisher cannot copyright the sole means of displaying a pipeline's location on a map); *Landsberg v. Scrabble Crossword Game Players, Inc.*, 736 F.2d 485, 488-89 (9th Cir. 1984) (denying copyright to those elements of game strategy book that, as a conceptual matter, "must unavoidably be produced" by anyone seeking to describe underlying ideas); *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 742 (9th Cir. 1971) (although specific jewelry design can be copyrighted, general "idea" of jeweled bee cannot); *Apple Computer Inc. v. Microsoft Corp.*, 799 F. Supp. 1006, 1023 (N.D. Cal. 1992) (denying copyright to elements of computer software that "serve a purely functional purpose in the same way that the visual displays and user command of the dashboard, steering wheel, gear shift, brakes, clutch and accelerator serve as the user interface of an automobile"), *aff'd in part and rev'd in part*, 35 F.3d 1435 (9th Cir. 1994).

protects the expression of ideas, not laws or other categories of use to which ideas can be put. Clearly, the ideas expressed of the laws of Anna and Savoy are expressible in many ways and that is all that is relevant to an analysis under the merger doctrine.

Veeck, in any case, can cite no authority for his proposition that a user's decision to use a copyright in a particular way (e.g., a governmental entity's decision to incorporate the copyrighted material by reference in regulations) can create a merger and thus terminate a copyright that was originally valid. Indeed, the existing authority is to the contrary.

In *PMIC*, the leading case on the validity of copyrights in privately developed works developed for government use, the Ninth Circuit rejected the merger argument out of hand. *See* 121 F.3d at 520 n.8. The plaintiff in that case argued that the AMA's codes were uncopyrightable "ideas" under § 102(b) of the Copyright Act because a federal agency had mandated their use as part of the Medicaid regulations. In rejecting this argument, the court pointed out that the AMA codes were not the only way to express the facts and ideas involved and that competitors could develop better coding systems and lobby the federal government and private actors to adopt them. As the Ninth Circuit said:

> [The AMA's copyright in its medical codes] does not stifle independent creative expression in the medical coding industry. It does not prevent Practice Management or the AMA's competitors from developing comparative or better coding systems and lobbying

> the federal government and private actors to adopt them. It simply prevents wholesale copying of an existing system.

Id.

The same can be said for SBCCI's model codes. The SBCCI's copyright in its building code does not stifle independent creative expression in the building code arena. The universe of building standards can be categorized in countless ways and at any level of generality, and the SBCCI must make difficult judgments about the content of and degree of specificity with which its codes should describe different provisions. Indeed, Veeck does not challenge that this is the case.

Belying any claim that copyright of a building code stifles independent creative expression is the fact that SBCCI codes are not the only building/construction codes available for adoption by state and local governments. Currently, the market offers at least two competing sets of building codes, in addition to the SBCCI's building code: the National Codes published by the Building Officials and Code Administrators International, and the Uniform Codes published by the International Conference of Building Officials. Clearly, then, there are, in practice, a variety of model codes from which state and local governments may choose.

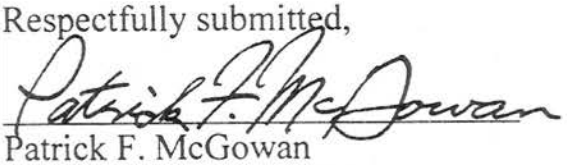
Even if the SBCCI were the dominant or even the only promulgator of such codes, the doctrine of copyright merger would not apply because there are many ways of expressing the ideas embodied in such codes. *Cf. Educational Testing*

Servs., 793 F.2d at 540 (rejecting argument under the merger doctrine that ETS-created tests were invalid or unenforceable because those tests "dominated" the field of college admissions testing). Since the ideas embodied in SBCCI's code are susceptible of many forms of expression, others can develop competing forms of expression and attempt to convince governments and the public to adopt and use them. The purpose of preventing the stifling of independent creative expression served by the merger doctrine simply does not come into play in this case.

CONCLUSION

For the foregoing reasons, the judgment of the district court should be affirmed.

Respectfully submitted,



Patrick F. McGowan
Texas Bar No. 13642000
Michael Lowenberg
Texas Bar No. 12630000

AKIN, GUMP, STRAUSS, HAUER
& FELD, L.L.P.
1700 Pacific Avenue, Suite 4100
Dallas, Texas 75201-4675
(214) 969-2800
(214) 969-4343 (facsimile)

ATTORNEYS FOR AMICI CURIAE

CERTIFICATE OF SERVICE

I hereby certify that true and correct paper and electronic copies of the above BRIEF OF AMICI CURIAE NATIONAL FIRE PROTECTION ASSOCIATION, INC. were served upon all counsel of record, as listed below, via certified mail, return receipt requested, on this 7th day of January, 2000:

Eric Weisberg
200 West Main
Denison, Texas 75020
Attorney for Appellant

Robert J. Veal
Veal & Bush, LLC
200 Cahaba Park Circle, Suite 125
Birmingham, Alabama 35242
Attorney for Appellee

Scott J. Williams

Scott T. Williams

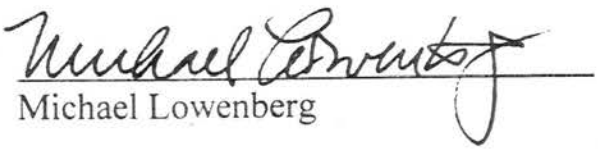
CERTIFICATE OF COMPLIANCE

Pursuant to FIFTH CIRCUIT RULE 32.2 and .3, the undersigned certifies this brief complies with the type-volume limitations of FED. R. APP. P. 32(a)(7).

1. Exclusive of the portions exempted by FIFTH CIRCUIT RULE 32.2, this brief contains 6105 words.

2. This brief has been prepared using Microsoft Word for Windows 97, version 8.0b in proportionally spaced, serif typeface using Times New Roman 14 point font in text and Times New Roman 12 point font in footnotes.

3. THE UNDERSIGNED UNDERSTANDS THAT A MATERIAL MISREPRESENTATION IN COMPLETING THIS CERTIFICATE, OR CIRCUMVENTION OF THE TYPE-VOLUME LIMITS IN FED. R. APP. P. 32(a)(7), MAY RESULT IN THE COURT'S STRIKING THIS BRIEF AND IMPOSING SANCTIONS AGAINST THE PERSON SIGNING THE BRIEF.



Michael Lowenberg

EXHIBIT 122

2011
NATIONAL ELECTRICAL CODE®
STYLE MANUAL

FOREWORD

April 1999

The *National Electrical Code* is used nationally and internationally as the basis for safeguarding persons, buildings, and their contents from hazards arising from the use of electricity. It is vitally important that the text be as explicit as possible and that maximum consistency be achieved in the language used in the text. The *Code* contains those provisions considered necessary for safety and thus is widely used as a basis for legal enforcement in the installation of electrical conductors and equipment in buildings and certain other premises (as detailed in the *Code* itself); this places a major responsibility on those involved in the preparation of the document to use forms of expression that promote uniform interpretation.

The Technical Correlating Committee of the National Electrical Code Committee has recognized these responsibilities and has issued this manual.

Preparation and Date of Adoption. This manual was originally prepared by the Editorial Task Group of the National Electrical Code Committee and adopted by the National Electrical Code Technical Correlating Committee on May 13, 1969. It was amended September 22, 1975, October 11, 1984, October 12, 1989, and May 9, 1994.

In January 1999, the Technical Correlating Committee Task Group on the Usability of the NEC rewrote the manual. It was adopted by the Technical Correlating Committee on March 19, 1999 and by the Standards Council on April 15, 1999. It was amended March 1, 2001, January 15, 2003, and August 9, 2011

Valuable guidance in the preparation of this manual was provided by several members of the Technical Correlating Committee.

TABLE OF CONTENTS

CHAPTER 1 GENERAL

1.1 Purpose. The *National Electrical Code (NEC) Style Manual* is prepared under the guidance of the NEC Technical Correlating Committee and is used to advise members of the Code-Making Panels on the required editorial style and arrangement of the *NEC*. It is intended to be used as a practical working tool to assist in making the *NEC* as clear, usable, and unambiguous as possible.

1.2 Scope. This *Manual* provides editorial and administrative requirements for writing the *National Electrical Code*® (NFPA 70) and the Standard for Electrical Safety in the Workplace (NFPA 70E). Except as otherwise specified in this manual, the *NEC*® and the Standard for Electrical Safety in the Workplace shall comply with the *Manual of Style* for NFPA Technical Committee Documents.

1.2.1 Requirements Not Included. The *NEC Style Manual* does not include many purely editorial and stylistic matters, including, but not limited to, the formatting of tables, capitalization practices, use of hyphens, and units of measurement. For information on these editorial guidelines, see the *Manual of Style* for NFPA Technical Committee Documents..

1.2.2 Format. The *NEC* is formatted differently from other NFPA standards. Examples of these differences include, but are not limited to, arrangement of the document, its internal numbering system, and use of informational notes. The Secretary of the NEC Technical Correlating Committee shall be responsible for recommending to the NEC Technical Correlating Committee resolutions of any apparent conflicts or discrepancies between the *Manual of Style* for NFPA Technical Committee Documents and this manual.

1.3 Regulatory Adoption. Because the *National Electrical Code* is intended to be suitable for adoption as a regulatory document, it is important that it contain clearly stated mandatory requirements in the Code text. This should encourage uniform adoption of the *National Electrical Code* without alterations.

1.4 Examples. The examples shown throughout this manual are intended to be representative of the style and arrangement of the text. The actual text used in the example may or may not match the current document text.

CHAPTER 2 DOCUMENT STRUCTURE AND NUMBERING

2.1 Subdivisions of the *NEC*. The *National Electrical Code* shall be organized as follows.

2.1.1 Introduction. Article 90 contains the scope of the *NEC* and administrative provisions.

2.1.2 Chapters. Chapters are major subdivisions of the *NEC* that cover broad areas and are divided into articles. Chapters shall be organized as follows:

Chapter 1 General
Article 100 — Definitions
Article 110 — Requirements for Electrical Installations

Chapter 2 Wiring and Protection
Articles 200 – 299

Chapter 3 Wiring Methods and Materials
Articles 300 – 399

Chapter 4 Equipment for General Use
Articles 400 – 499

Chapter 5 Special Occupancies
Articles 500 – 599

Chapter 6 Special Equipment
Articles 600 – 699

Chapter 7 Special Conditions
Articles 700 – 799

Chapter 8 Communications Systems
Articles 800 – 899

Chapter 9 Tables

2.1.3 Articles. Articles are chapter subdivisions that cover a specific subject such as grounding, overcurrent protection, lighting fixtures, and so on. Each article shall have a title. Articles are divided into sections and sometimes into parts.

2.1.4 Parts. If an article is sufficiently large, or where necessary to logically group requirements, it shall be permitted to be subdivided into parts that correspond to logical groupings of information. Parts shall have titles and shall be designated by Roman numerals. (See example.) Parts typically consist of a number of sections; see 2.4.2.1 for section numbering in articles that are subdivided into parts.

Example:

I Installation
II Construction Specifications
III Grounding

2.1.5 Subdividing Sections. Sections shall be permitted to be subdivided for clarity, with each subdivision representing either a rule or a part of a rule. Up to three levels of subdivisions shall be permitted, and any level shall be permitted to contain a list.

2.1.5.1 List Formats. Lists are a method of structuring the items necessary to complete a rule. Lists in any subdivision level shall be numbered, and listed items shall be single words, phrases, or sentences. Items in a list shall not contain titles.

2.1.5.2 Subdivision Titles. First and second level subdivisions shall have titles. Third level subdivisions shall be permitted to have titles.

2.1.5.3 Subdivision Example. The following illustrates typical subdivision numbering with lists (see also 2.4):

Example:

Chapter — **Chapter 2 Wiring and Protection**

Article — **Article 250 — Grounding**

Part — **II Conductors**

Section — **250.121 Identification and Size of Equipment Grounding Conductors.** Unless otherwise required in this *Code,* equipment grounding conductors shall be permitted to be bare, covered, or insulated.

Level 1 — **(A) Identification of Conductors.** An insulated or covered conductor larger than No. 6 copper or aluminum shall be permitted to be identified, at the time of installation, by one of the following means:

List item — (1) Stripping the insulation or covering from the entire exposed length.
List item — (2) Coloring the exposed insulation or covering green.
List item — (3) Marking the exposed insulation or covering with green tape or green adhesive labels.

Level 1 — **(B) Size of Conductors.**

Level 2 — **(1) General.** Copper, aluminum, or copper-clad aluminum equipment grounding conductors of the wire type shall not be smaller than shown in Table 250.122.

Level 2 — **(2) Adjustment for Voltage Drop.** If conductors are adjusted to compensate for voltage drop, equipment grounding conductors shall be adjusted according to circular mil area.

Level 2 — **(3) Conductors in Parallel.** If conductors are run in parallel, the equipment grounding conductors shall be sized by either of the following methods.

Level 3 — (a) Each parallel equipment grounding conductor shall be sized on the basis of the ampere rating of the overcurrent protective device. If ground-fault protection for equipment is installed, each parallel equipment grounding conductor run in a raceway shall be to be sized in accordance with Table 250.122.

Level 3 — (b) Parallel equipment grounding conductors in multiconductor cables shall be permitted to be sized in accordance with the Table 250.122 on the basis of the trip rating of the ground-fault protection if the following conditions are met:

List item — (1) Only qualified persons will service the installation.
List item — (2) The trip rating is not greater than the ampacity of a single conductor.
List item — (3) The ground-fault protection is listed for the purpose.

2.1.6 Annexes. Annexes (previously known as appendixes) shall contain references, examples, calculations, tables, and similar nonmandatory material. Annexes do not form part of the requirements of the *National Electrical Code*, and a statement to that effect shall appear at the beginning of each annex. Annexes shall have titles and shall be designated by capital letters.

Example:

Annex C
Conduit and Tubing Fill for Conductors and Fixture Wires of the Same Size

This annex is not a part of the requirements of this Code but is included for informational purposes only.

Annexes that are used to cross-reference material from one edition of the Code to another edition of the Code shall remain as an annex for a minimum of two code cycles. NFPA staff shall have the responsibility of updating any cross-reference annex.

2.2 Content of *NEC* Subdivisions.

2.2.1 Scopes. Each article shall have a scope, which shall be the first section of the article. The approval of article scope statements is the responsibility of the Technical Correlating Committee.

Example:

Article 422 — Appliances
422.1 Scope
Article 280 — Surge Arresters
280.1 Scope

2.2.2 Definitions. Definitions shall be in alphabetical order and shall not contain the term that is being defined. Definitions shall not contain requirements or recommendations.

2.2.2.1 Article 100. In general, Article 100 shall contain definitions of terms that appear in two or more other articles of the *NEC*.

Examples:

Enclosure. The case or housing of apparatus, or the fence or walls surrounding an installation to prevent personnel from accidentally contacting energized parts, or to protect the equipment from physical damage.

Ground. A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth.

2.2.2.2 Definitions in Other Articles. If an article contains one or more definitions, the definition(s) shall be in the second section, shall be listed in alphabetical order, and shall be styled as shown in the following examples.

Examples:

280.2 Definition.

Surge Arrester. A protective device for limiting surge voltages by discharging or bypassing surge current, and it also prevents continued flow of follow current while remaining capable of repeating these functions.

318.2 Definition.

Cable Tray System. A unit or assembly of units or sections and associated fittings forming a rigid structural system used to securely fasten or support cables and raceways.

2.3 Tables and Figures.

2.3.1 Mandatory. Tables and figures, including any accompanying notes, represent mandatory requirements, unless specifically noted as in 2.3.2. Tables and figures shall be referenced in the text and shall be designated by the number of the *NEC* rule in which they are referenced. Each table shall have a title and each figure shall have a caption. Titles and captions shall be as brief as possible, consistent with clarity.

Example:

500.5(D) Marking. Approved equipment shall be marked to show the class, group, and operating temperature referenced to a 40°C ambient. Numbers marked on the equipment nameplates shall be in accordance with Table 500.5(D).

Table 500.5(D) Identification Numbers.

2.3.2 Nonmandatory. When the *NEC* is adopted into law, graphics in the text of the document become mandatory. If a Code-Making Panel wishes to use a table or figure to illustrate only a typical situation, not a mandatory requirement, that table or figure shall be identified as an informational note or be placed in an annex. Each table shall have a title and each figure shall have a caption.

2.4 Numbering Practices. The following two practices are intended to improve NEC usability by preventing the continual renumbering of articles and sections from one edition to the next.

2.4.1 Parallel Numbering Within Similar Articles. To the extent possible, Code-Making Panels are encouraged to use the same section numbers (and part numbers, where applicable) for the same purposes within articles covering similar subjects.

Example: A typical family of articles might be organized as follows:

Article 399 — Future Products
- I General
  - 399.1 Scope
  - 399.2 Definition
  - 399.3 Other Articles
- II Installation
  - 399.10 Uses Permitted
  - 399.11 Uses Not Permitted
  - 399.13 Bends
- III Construction Specifications
  - 399.20 General
  - 399.21 Sizes
  - 399.22 Marking

2.4.2 Nonconsecutive Numbering. Articles and sections in the *NEC* are, in general, numbered consecutively. However, gaps or unused numbers are sometimes left for future articles and sections. Assigning numbers to new articles is the responsibility of the NEC Technical Correlating Committee, advised by the NFPA Staff Editor. Assigning numbers to new sections within articles is the responsibility of Code-Making Panels, advised by the NFPA Staff Editor.

2.4.2.1 Parts. If an article is subdivided into parts, it is recommended that the section numbering within each part start with the next decade as a minimum.

Example:

Article 498 — Future Equipment
- I General
  - 498.1 – 498.6
- II Disconnecting Means
  - 498.10 – 498.24
- III Branch-Circuit Conductors
  - 498.50 – 498.58
- IV Provisions for Combination Loads
  - 498.100 – 498.110

2.4.3 Numbering Informational Notes. If there are two or more consecutive informational notes, each shall be numbered.

Example

210.12 Arc-Fault Circuit-Interrupter Protection.
(A) Dwelling Units. All 120-volt, single phase, 15 and 20 ampere branch circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas shall be protected by a listed arc-fault circuit interrupter, combination-type, installed to provide protection of the branch circuit.

Informational Note No.1: For information on types of arc-fault circuit interrupters, see UL 1699-1999, Standard for Arc-Fault Circuit Interrupters.

Informational Note No.2: See 11.6.3(5) of NFPA 72-2010, National Fire Alarm and Signaling Code, for information related to secondary power supply requirements for smoke alarms installed in dwelling units.

Informational Note No.3: See 760.41(B) and 760.121(B) for power-supply requirements for fire alarm systems.

2.5 General References to Other Articles. If a listing is made of references to other articles under the section title “Other Articles,” the listing shall be in table format and shall comply with 2.3.

2.6 Exceptions.

2.6.1 Placement and Order. Exceptions shall immediately follow the main rule to which they apply. Where exceptions are made to items within a numbered list, the exception shall clearly indicate the items within the list to which it applies. Exceptions containing the mandatory terms *shall* or *shall not* are to be listed first in the sequence. Permissive exceptions containing *shall be permitted* are to follow any mandatory exceptions and be listed in their order of importance as determined by the Code-Making Panel.

2.6.2 Numbering. Where there are two or more consecutive exceptions, each shall be numbered.

CHAPTER 3 EDITORIAL GUIDELINES

3.1 Mandatory Rules, Permissive Rules, and Explanatory Information.

3.1.1 Mandatory Rules. *Shall, shall not,* and *shall not be* indicate mandatory *NEC* rules. Terms such as *is to be, shall be not,* and *must,* whose meanings are less clear, shall not be used. The terms *may* or *can* shall not be used.

3.1.2 Permissive Rules. *Shall be permitted* and *it shall be permissible* indicate allowed optional or alternate methods. (Note that these are still mandatory language and constitute rules.) The term *may* shall only be used where it recognizes a discretionary judgment on the part of an authority having jurisdiction.

Example:

The authority having jurisdiction may waive specific requirements in the *Code* or permit alternate methods.

3.1.3 Informational Notes. Informational notes contain explanatory information and shall be located directly after the rule they apply to. Informational Notes shall not be written in mandatory language and shall not contain requirements, make interpretations, or make recommendations. If an Informational Note is needed to explain the text of the code, consideration should be given to rewriting the text of the code to make the rule clear.

Examples of informational notes

Correct (D) 600 Volts Between Conductors. Circuits exceeding 277 volts, nominal, to ground and not exceeding 600 volts, nominal, between conductors shall be permitted to supply the following:

(1) The auxiliary equipment of electric-discharge lamps mounted in permanently installed luminaires where the luminaires are mounted in accordance with one of the following:

a. Not less than a height of 6.7m (22ft) on poles or similar structures for the illumination of outdoor areas such as highways, roads, bridges, athletic fields or parking lots

b. Not less than a height of 5.5m (18ft) on other structures such as tunnels

Informational Note: See 410.138 for auxiliary equipment limitations

(2) Cord-and-plug-connected or permanently connected utilization equipment other than luminaires

(3) Luminaires powered from direct-current systems where the luminaire contains a listed, dc-rated ballast that provides isolation between the dc power source and the lamp circuit and protection from electric shock when changing lamps.

Incorrect (D) 600 Volts Between Conductors. Circuits exceeding 277 volts, nominal, to ground and not exceeding 600 volts, nominal, between conductors shall be permitted to supply the following:

(1) The auxiliary equipment of electric-discharge lamps mounted in permanently installed luminaires where the luminaires are mounted in accordance with one of the following:

a. Not less than a height of 6.7m (22ft) on poles or similar structures for the illumination of outdoor areas such as highways, roads, bridges, athletic fields or parking lots

b. Not less than a height of 5.5m (18ft) on other structures such as tunnels

(2) Cord-and-plug-connected or permanently connected utilization equipment other than luminaires

(3) Luminaires powered from direct-current systems where the luminaire contains a listed, dc-rated ballast that provides isolation between the dc power source and the lamp circuit and protection from electric shock when changing lamps.

Informational Note: See 410.138 for auxiliary equipment limitations.

3.1.4 Exceptions. Exceptions to *NEC* rules shall be used sparingly. If used, exceptions shall convey alternatives or differences to a basic code rule. It is the responsibility of the Code-Making Panel to determine whether the principle can be expressed most effectively as a separate positive code rule or as an exception to a rule. Annex A contains commentary on exceptions.

3.1.4.1 Language. Exceptions shall be permitted to use the term*s shall, shall not,* or *shall be permitted* depending on whether they specify a mandatory requirement that is (1) different from the rule, or (2) diametrically opposite to the rule, or (3) whether they permit, but do not require, a variance from the main rule. Exceptions shall be written in complete sentences.

3.1.4.2 Excessive Numbers of Exceptions. When the number of exceptions to a specific code rule becomes excessive, the Code-Making Panel should consider a revision of the basic rule or a rearrangement of the section to better convey the objectives.

3.2 Word Choices.

3.2.1 Unenforceable Terms. The *NEC* shall not contain references or requirements that are unenforceable or vague. The terms contained in Table 3.2.1 shall be reviewed in context, and, if the resulting requirement is unenforceable or vague, the term shall not be used.

Table 3.2.1 Possibly Unenforceable and Vague Terms

Acceptable	Many
Adequate	May
Adjacent	Maybe
Appreciable	Might
Appropriate	Most(ly)
Approximate(ly)	Near(ly)
Available	Neat(ly)
Avoid(ed)	Normal(ly)
Can	Note
Care	Periodic(ally)
Careful(ly)	Practical(ly)
Consider(ed)(ation)	Practices
Could	Prefer(red)
Designed for the purpose	Proper(ly)
Desirable	Ready(ily)
Easy(ily)	Reasonable(y)
Equivalent(ly)	Safe(ly)(ty)
Familiar	Satisfactory
Feasible	Secure(ly)
Few	Several
Frequent(ly)	Significant
Firmly	Similar
Generally	Substantial(ly)
Good	Sufficient(ly)
Lightly	Suitable
Likely	Usual(ly)
Legible(y)	Workmanlike

Examples of unenforceable or vague terms:

Correct: A manual pull station shall be located *within 1 m of* each exit.
Incorrect: A manual pull station shall be located *near* each exit.

Correct: Conduit shall be supported at intervals not exceeding 10 ft.
Incorrect: Conduit shall be adequately supported at periodic intervals.

3.2.2 Expressing Maximum and Minimum Limits. Maximum and minimum limits shall be expressed with the following types of wording.

Examples:

Shall not exceed 300 volts to ground . . .
Shall have a clearance of not less than 5 cm . . .
Shall be supported at intervals not exceeding 1.5 m . . .

3.2.3 Acronyms and Uncommon Abbreviations. All acronyms and any abbreviations that are not in common use shall be spelled out with the abbreviation following in parentheses for the first use of the term in the body of each article. Each subsequent use in the article shall be permitted to be the acronym or abbreviation only.

Examples:

(A) Dwelling Units. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified below shall have ground-fault circuit-interrupter (GFCI) protection for personnel.

(B) Nondwelling Units. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified below shall have GFCI protection for personnel.

3.2.4 Standard Terms. Standard terms have been established through accepted use or by definition and are to be used in preference to similar terms that do not have such recognition. Annex B provides guidance for syntax, spelling, punctuation, and usage of many standard technical terms.

3.2.5 Special Terms.

3.2.5.1 Ampacity. The term *ampacity*, as defined in Article 100, applies to the current-carrying capacity of conductors only. Therefore, this term shall be used in this sense, but only in this sense. (The ampacity of a No. 14 copper conductor with 60°C insulation is 20.) On the other hand, switches, motors, and similar equipment are not rated in ampacities. Instead, they have current ratings, voltage ratings, horsepower ratings, and so on. Such equipment, therefore, shall not be specified or referred to in "ampacity" values.

3.2.5.2 Authority Having Jurisdiction. The term used to indicate any kind of inspection authority, enforcement authority, or the like, shall be the *authority having jurisdiction*. The use of this term will result in standardization, and it is in keeping with the term used in all other NFPA standards. This term is fully developed and explained in Paragraph 3-3.6.1 of the "NFPA Regulations Governing Committee Projects."

3.2.5.3 Listed by a Nationally Recognized Testing Laboratory. Use of the terms "Nationally Recognized Testing Laboratory" or "NRTL" shall be avoided. The definition of "listed" in Article 100 provides the details necessary for application in the NEC. The Nationally Recognized Testing Laboratory program, also known as NRTL, is an OSHA program for the accreditation of laboratories that test products for the workplace and is not to be applied generally in the NEC. **When used in NFPA 70 the term "Qualified Electrical Testing Laboratory" is preferred.**

3.2.5.4 Provisions on Guarding. Requirements for guarding shall be stated in as complete a manner as possible and in as nearly standardized form as can be reasonably achieved. For example, the two terms *protected against contact with live parts* and *protected against accidental contact with live parts* do not mean the same thing. It may be necessary for qualified persons to have access to live parts, or it may be desirable to provide varying degrees of protection, depending on the location. Among other things, this distinction could affect the type of ventilation louvers or drains that would be acceptable for some types of equipment. The intent of the type and degree of protection to be required should, therefore, be made clear if possible.

3.2.5.5 Provisions on Protection Against Physical Damage. If *protection against physical damage* is to be one of the requirements, this can be standardized by the use of this terminology instead of using the phrase *provided with mechanical protection* to mean the same thing. In many cases, one or two acceptable methods of providing the intended protection can be stated as examples for better understanding without restricting the rule to a specification-type requirement. There have been some cases, such as in the instance of grounding electrode conductors, where the means provided by the installer for protection against physical damage has impaired the electrical function of the conductor or equipment. This can be largely avoided by an explanatory note if the intent cannot be otherwise made sufficiently clear.

3.2.5.6 Voltage. The term *voltage* is well understood and shall be used in preference to other terms such as *potential*. Because *voltage* is expressed in volts, a requirement should be written to avoid repetition of this term if it is possible to do so without losing clarity.

Example:

Correct: A circuit supplying the primary of an isolating transformer shall not exceed 300 volts between conductors.

Incorrect: The voltage of a circuit supplying the primary of an isolating transformer shall not exceed 300 volts between conductors.

3.2.6 Formulas and Equations. Formulas and equations shall be expressed in standard mathematical symbols.

3.2.7 Units of Measurement.

3.2.7.1 Measurement System of Preference. Metric units of measurement are in accordance with the modernized metric system known as the International System of Units (SI).

3.2.7.2 Dual System of Units. The SI units shall appear first, and the inch-pound units shall immediately follow in parenthesis. In tables the SI and inch-pound units shall appear in separate columns.

3.2.7.3 Permitted Uses of Soft Conversion.

3.2.7.3.1 Trade Sizes. Where the actual measured size of a product is not the same as the nominal size, trade size designators shall be used rather than dimensions. Trade practices shall be followed in all cases.

3.2.7.3.2 Extracted Material. Where material is extracted from another standard, the context of the original material shall not be compromised or violated. Any editing of the extracted text shall be confined to making the style consistent with that of the NEC.

3.2.7.3.3 Industry Practice. Where industry practice is to express units in inch-pound units, the inclusion of SI units shall not be required.

3.2.7.3.4 Safety. Where hard conversion to SI would have a negative impact on safety.

3.2.7.4 Approximate Conversion. The conversion from inch-pound units to SI units shall be permitted to be an approximate conversion.

3.2.7.5 Standard Conversions. See Annex C for information on standard conversions.

3.2.7.6 Units. For dimensions less than 1 m, the SI unit shall be expressed as mm. For dimensions from 1 m to less than 1 km, the SI units shall be expressed in m. For dimensions of 1 km or greater, the SI units shall be expressed as km.

3.3 Writing Style. These guidelines shall be followed to help produce clear, unambiguous, *NEC* language.

3.3.1 General Guidelines.

1. Write in present tense; do not write in future tense.

Example:

Correct: No conductor shall be used in such a manner that its operating temperature exceeds that designated for the type of insulated conductor involved.

Incorrect: No conductor shall be used in such a manner that its operating temperature will exceed that designated for the type of insulated conductor involved.

---

2. Use simple declarative sentence structure, and keep sentences short. Writing rules in long sentences full of commas, dependent clauses, and parenthetical expressions often creates confusion and misunderstanding. The requirement can be written in two or more short sentences, expressed using a list or table, or both.

Example:

Correct:
(D) Grounded and Grounding Conductors. If a circuit supplies portables or pendants and the circuit includes a grounded conductor, then the following shall apply.

1. Receptacles, attachment plugs, connectors, and similar devices shall be of the grounding type.
1. The grounded conductor of the flexible cord shall be connected to the screw shell of any lampholder or to the grounded terminal of any utilization equipment supplied.

Incorrect:
(D) Grounded and Grounding Conductors. Where a circuit supplies portables or pendants and includes a grounded conductor as provided in Article 200, receptacles, attachment plugs, connectors, and similar devices shall be of the grounding type, and the grounded conductor of the flexible cord shall be connected to the screw shell of any lampholder or to the grounded terminal of any utilization equipment supplied.

---

3. Use common words and avoid overly complex terminology (see 3.3.4).

4. Use positive language, rather than negative, wherever possible.

Example:

Correct: Boxes used in wet locations shall be listed for wet locations.

Incorrect: Ordinary electrical boxes shall not be used in wet locations.

---

5. If possible, avoid using dependent clauses, parenthetical phrases, and unclear inverted word order.

Example:

Correct: The definitions in Part I of this article apply throughout the *Code*.

Incorrect: Part I of this article contains definitions intended to apply wherever the terms are used throughout this *Code*.

3.3.2 Lists and Tables. If possible, use lists or tables to present requirements, rather than long text descriptions.

3.3.3 Plural. Unless referring to a single item of equipment, references to electrical components and parts shall be plural rather than singular. This results in greater consistency and makes it clear that the *NEC* provision refers to *all* components or parts of a given type or class.

Examples:

Correct	**Incorrect**
Luminaires	a luminaire
Receptacles	a receptacle
Switches and circuit breakers	a switch or circuit breaker
Outlet boxes and enclosures	an outlet box or enclosure
Installations shall...	an installation shall...

3.3.4 Word Clarity. Words and terms used in the *NEC* shall be specific and clear in meaning, and shall avoid jargon, trade terminology, industry-specific terms, or colloquial language that is difficult to understand. *NEC* language shall be brief, clear, and emphatic. The following are examples of old-fashioned expressions and word uses that shall not be permitted:

Above or *below* (referring to text) — avoid using to describe the location of text.

Example:

Correct: ...shall be in accordance with (a), (b), and (c).

Incorrect: ...shall be in accordance with (a), (b), and (c) below.

And such, and the like — it is preferable to rearrange the sentence to use *such as* followed by examples.

As allowed — Use *allowed* instead.

Herein — Usually this word can be dropped without affecting clarity. Otherwise say "in this section" or whatever else is actually meant by *herein.*

If - Use to indicate a condition

Provided that — Use *if* instead.

Thereof — Rewrite sentence to say *of* or *of them*.

Utilize — Use *use* instead.

When - Use to express time.

Where — Use to convey a location or a situation. Not to be used to express time.

3.3.5 Parallel Construction. Parallel construction means stating similar requirements in similar ways for greater consistency. This helps makes the *NEC* clear for users. Lack of consistency often creates confusion, causing users to ask: *Does this difference in wording represent a different requirement? Or is it simply two different ways of trying to say the same thing?* There are several kinds of parallel construction:

Organization and Numbering. If practicable, the subsections of similar articles should be numbered in the same order (see 2.4.1).

Sections. Different sections, within the same article, that reflect similar or closely related subjects, should have similar structures.

Lists. All items in a list should be parallel (that is, singular or plural, written in the same verb tense, using phrases or sentences but not a mix).

CHAPTER 4 REFERENCES AND EXTRACTS

4.1 References to Other *NEC* Rules. Use references to improve clarity of the rule. Avoid redundant use of references. Do not use a reference if the requirement is already covered by 90.3. Explanatory references shall be in informational notes.

4.1.1 References to a Part Within an Article. References shall not be made to an entire article, such as "grounded in accordance with Article 250" unless additional conditions are specified. References to parts within articles shall be permitted.

Example:

If a switch or circuit breaker serves as the disconnecting means, it shall be within sight from the motor controller and shall comply with Part IX of Article 430.

4.1.2 Other References. Use references to other *NEC* rules to avoid repeating a requirement. If used, references shall include only the number of the rule being referenced; the words *section*, *subsection*, and *paragraph* shall not be used. References shall indicate the subject of the rules being referenced; the subject shall follow the number.

Example:

Wiring and equipment in Class I, Division 1 locations shall be grounded as specified in Article 250 and with the following additional requirements...

Informational Note: See 336.10 for the definition of *first floor*.

Informational Note: See 440.22(B)(2), Exception No. 2, for branch-circuit requirements for cord- and plug-connected equipment.

4.2 References to Other Standards. References to other standards shall not be in mandatory Code text. References to product standards shall be in an informative annex. References to other Standards shall be in the Informational Notes.

4.3 Extracts.

4.3.1 Extracting Material from an NFPA Document and Including It in the *NEC*. Extracting provides an advantage over multiple references to requirements contained within other NFPA documents. Extracting has the disadvantage of creating a situation where the text of the source document and the user document are not identical due to different revision cycles.

4.3.2 Extract Requirements. To extract material from another NFPA document, the following requirements shall be met.

4.3.2.1 Reason. There shall be a specific technical reason for the extract.

4.3.2.2 Context. A section or paragraph being extracted from another document shall represent a complete thought and shall be entirely extracted. The context of the original material shall not be compromised or violated. Any editing of the extracted text shall be confined to making the style consistent with that of the *NEC* and then only with the concurrence of the committee having primary jurisdiction. Such concurrence shall be obtained through the staff liaison for the source document.

4.3.2.3 Identification. The number, title, and edition of the NFPA document from which the extract is taken shall appear at the beginning of the article in which the extract is used. The document number and paragraph from which the extract is taken shall appear in brackets at the end of the section in which the extract is used.

Example:

Article 514 — Gasoline Dispensing and Service Stations

Informational Note: Rules that are followed by a reference to [NFPA 30, xxx] in brackets contain text that has been extracted from NFPA 30-1996, *Automotive and Marine Service Station Code* (xxx represents the specific sections of that document referenced). Only editorial changes were made to the extracted text to make it consistent with this Code.

514.2 Class I Locations. Table 514.2 shall be applied where Class I liquids are stored, handled, or dispensed and shall be used to delineate and classify service stations. A Class I location shall not extend beyond an unpierced wall, roof, or other solid partition.
[NFPA 30, 7-1 and 7-3].

514.5(B) Attended Service Stations. Emergency controls as specified in Section 514.5(A) shall be installed at a location acceptable to the authority having jurisdiction (AHJ), but controls shall not be more than 100 ft (30 m) from dispensers. [NFPA 30, 9-4.5]

4.3.3 Interpretations of Extracted Material in the *NEC*. Requests for interpretations of, or proposed revisions to, the extracted text shall be referred to the NFPA technical committee that is responsible for the source document.

CHAPTER 5 EDITORIAL ADMINISTRATIVE RESPONSIBILITIES

5.1 General. Both NFPA committee members and staff shall be responsible for ensuring compliance with this manual.

5.2 Responsibilities of Committee Members.

5.2.1 Code-Making Panels. Panels shall be responsible for ensuring that the *Code* text agreed on at meetings complies with all requirements of this manual. They shall rely on the guidance of NFPA staff.

5.2.2 NEC Technical Correlating Committee. The NEC Technical Correlating Committee shall act as needed to ensure that all text appearing in the Report on Proposals (ROP), Report on Comments (ROC), and final *National Electrical Code* meets the requirements of this *Manual.*

5.3 Responsibilities of NFPA Staff.

5.3.1 NEC Staff Editor. NFPA shall assign a staff editor to assist the NEC Technical Correlating Committee in developing the final text of the *NEC*. This editor shall be responsible for advising committees, panel liaisons, and the NEC Technical Correlating Committee Secretary on matters of *NEC* style.

5.3.2 Panel Liaisons. NFPA staff serving at meetings of Code-Making Panels shall advise panels on matters of *NEC* style.

5.3.3 NEC Technical Correlating Committee Secretary. The Secretary shall be responsible for advising the NEC Technical Correlating Committee on creating *Code* text that complies with the requirements of this manual. If text approved by Code-Making Panels does not comply, the Secretary shall recommend administrative revisions needed to bring the text into compliance, while preserving the panel's intent.

Annex A
Editorial Guidance on Exceptions

Exceptions should be re-written into positive language, *if positive language achieves clarity.* The elimination of all exceptions is not intended, nor is it desirable. In some cases, deleting the word *exception* and incorporating the unedited language into a main rule may not lead to clarity. The resulting rule may appear to be self-contradicting instead.

But, in many cases, positive language is much clearer. Two good examples may be found in Sections 240-3 and 240-21. In these instances, the *Code* language once consisted of a short main rule followed by a number of exceptions.

Other good examples of writing exceptions into positive language may be found in the ROP for the 1999 *Code* cycle. Proposed 520-68(A) consisted of a main rule with four exceptions. The main rule was changed to (1) entitled "General." It is clear that this rule would generally apply. The exceptions then became (2) stand lamps, (3) high temperature applications, and (4) breakouts. In 520-68(B), an exception was clearly the easiest way to deal with the difference from the main rule, and Panel 15 retained the exception.

520.68. Conductors for Portables.

(A) Conductor Type.

(1) General. Flexible conductors, including cable extensions, used to supply portable stage equipment shall be listed extra-hard usage cords or cables.

(2) Stand Lamps. Reinforced cord shall be permitted to supply stand lamps where the cord is not subject to severe physical damage and is protected by an overcurrent device rated at not over 20 amperes.

~~Exceptions No. 1. Reinforced cord shall be permitted to supply stand lamps where the cord is not subject to severe physical damage and is protected by an overcurrent device at not over 20 amperes.~~

(3) High Temperature Applications. A special assembly of conductors in sleeving no longer than 3.3 ft (1 m) shall be permitted to be employed in lieu of flexible cord if the individual wires are stranded and rated not less than 125oC (257oF) and the outer sleeve is glass fiber with a wall thickness of at least 0.025 in. (0.635 mm).

Portable stage equipment requiring flexible supply conductors with a higher temperature rating where one end is permanently attached to the equipment shall be permitted to employ alternate, suitable conductors as determined by a qualified testing laboratory and recognized test standards.

~~Exception No. 2: A special assembly of conductors in sleeving no longer than 3.3 ft. (1 m) shall be permitted to be employed in lieu of flexible cord if the individual wires are stranded and rated not less than 125 degrees C (257oF) and the outer sleeve is glass fiber with a wall thickness of at least 0.025 in. (0.635 mm).~~

~~Exception 3: Portable stage equipment requiring flexible supply conductors with a higher temperature rating where one end is permanently attached to the equipment shall be permitted to employ alternate, suitable conductors as determined by a qualified testing laboratory and recognized test standards.~~

(4) Breakouts. Listed, hard usage (junior hard service) cords shall be permitted in breakout assemblies where all of the following conditions are met:

a. The cords are utilized to connect between a single multiple connector containing two or more branch circuits and multiple two-pole, 3-wire connectors.

b. The longest cord in the breakout assembly does not exceed 20 ft (6.1 m).

c. The breakout assembly is protected from physical damage by attachment over its entire length to a pipe, truss, tower, scaffold, or other substantial support structure.

d. All branch circuits feeding the breakout assembly are protected by overcurrent devices rated at not over 20 amperes.

~~Exception No. 4: Listed, hard usage (junior hard service) cords shall be permitted in breakout assemblies where all of the following conditions are met:~~

~~a. The cords are utilized to connect between a single multipole connector containing two or more branch circuits and multiple two-pole, 3-wire connectors.~~

~~b. The longest cord in the breakout assembly does not exceed 20 ft. (6.1 m).~~

~~c. The breakout assembly is protected from physical damage by attachment over its entire length to a pipe, truss, tower, scaffold, or other substantial support structure.~~

~~d. All branch circuits feeding the breakout assembly are protected by overcurrent devices rated at not over 20 amperes.~~k

b. Conductor Ampacity. The ampacity of conductors shall be as given in Section 400-5, except multiconductor listed extra-hard usage portable cords, that are not in direct contact with equipment containing heat-producing elements, shall be permitted to have their ampacity determined by Table 520-44. Maximum load current in any conductor shall not exceed the values in Table 520-44.

Exception: Where alternate conductors are allowed in Section 520-68(a)(3), ~~Exception Nos. 2 and 3~~, their ampacity shall be as given in the appropriate table in this *Code* for the types of conductors employed.

Annex B
Standard Terms

The following list provides guidance for syntax, spelling, punctuation, and usage for many of the standard terms used in the NEC. Many words are listed with an abbreviation to indicate usage. For example, adjective = a, noun = n, and verb = v.

A

abovegrade (a)
aboveground (a)
acknowledgment (no *e*)
adapter
adjustable-speed (a)
affect (v) = to influence; effect (n) = result
air conditioner (n)
air-condition (v)
air-conditioning (a)
airflow (a,n)
airtight (a)
airspace (a)
air-handling (a)
alternating current (n) (abbrev. ac)
alternating-current (a) (abbrev. ac)
American Wire Gage (abbrev. AWG)
ampacity
ampere (see units of measurement)
20-ampere–rated receptacle
and/or (try to avoid)
apparatus (singular and plural)
approved
arc fault (n)
arc-fault(a)
arrester (not *arrestor*)
at least (avoid; use *not less than* to indicate minimum dimension)
autoignition
authority having jurisdiction (abbrev. AHJ)
automatic-reset (a)

B

backfeed
backfill (n,v)
backup (a,n)
back-wiring spaces
belowgrade (a)
belowground (a)
bipolar
braid-covered (a)
branch circuit (n)
branch-circuit (a)
branch-circuit ground-circuit
branch-circuit overcurrent device
buildup (n)
build up (v)
busbar
buses
busing

C

cable tray
cablebus
capacitors

ceiling-suspended (paddle) fan
circuit-grounding connection
circuit-interrupting device
circuit-protective device
circular mil (a)
Class I location
Class I, Division 2, location
clean-up (n)
cleanup (v)
closed-circuit (a)
Code (initial cap and italic when referring to the *NEC*)
cold-storage warehouse
combination-load equipment
common-return (a)
communications system, utilities, equipment, and so on (not *communication*)
concrete-encased electrode
conductive-film heating elements
continuous current rating
control boards
control circuit (a)
constant-current systems
copper (Cu)
copper-clad (a)
cord- and plug-connected appliances
corner-grounded delta systems
corrosion-resistant (a)
counter space
counter-mounted (a)
countertop
crawl space
cross members
cross-connect arrays
cross section (n)
cross-sectional (a)
cubic inches (in.) (see units of measurement)
current-carrying (a)
current-limiting (a)
cut off (v)
cutoff (a,n)
cutouts (n)

D

data (singular and plural, use with plural verb)
dead-front switchboards
de-energize
deicing
delta [use symbol (Δ) in equations]
delta-connected (a)
delta corner grounded
derating
Design B motor
dipole (a)
direct buried (n)
direct-buried (a)
direct current (n) (abbrev. dc)
direct-current (a) (abbrev. dc)
disconnecting means (not disconnection means)
dripproof
drywall
dual-element fuses
ducts (as in air-handling ducts, not for use with raceways)
ductwork

dust-ignitionproof (a)
dustproof (a)
dusttight (a)

E
effect (n) = result; affect (v) = to influence
e.g. (avoid using, use instead *for example*)
electric/electrical (use to be determined by staff)
electrical (as applied to requirements, standards, codes)
electric-discharge lighting
energized (electrically connected to a source of voltage
engine–generator set
ensure (not *insure*)
equipment (singular and plural)
equipment grounding conductor
etc. (try to avoid, use *and so on*, *and so forth*, or *such as*)
Exception No. 1 (when referring to specific exception)
Exception Nos. 1 and 2 (more than one exception)
exception (general, lowercase if used alone)
explosionproof
extra-hard usage

F
faceplate (n)
face-up position
fault-interrupting device
fault–current forces
fiberglass reinforced
field connection box
field-installed (a)
fire alarm circuit
fire-extinguishing equipment
fire-resistant construction
fireproof
firestopped
fixed, electric space-heating equipment
fixed-load (a)
fixed stage equipment
flame retardant (n)
flame-retardant (a)
flat-top raceways
fluxes
foamed-in-place material
forced-air system
full-load current
full-load rating
full-voltage resistor
fuseholder

G
gal (plural), 3-gal (a)
gas–air (a)
gauge, not gage
general-purpose (a)
general-use (a)
gray buses
grain-drying systems
grid-connected systems
grille
ground-fault circuit interrupter (n) (abbrev. GFCI)
ground-fault circuit-interrupter (a) (abbrev. GFCI)
ground-fault (a)

ground fault (n)
ground-fault protective device
grounding electrode conductor
guarding
guest rooms

H
hand-carried (n)
hand-held (a)
hand-supported (a)
handhole (n)
handlamp (n)
hazardous (classified) location
headroom (n)
heat-generating equipment
heat-resistant (a)
heavy-duty (a)
hertz (rather than cycles per second) (see units of measurement)
high-heat type
high-impedance grounded neutral system
high-leg (a)
high-pressure (a)
high-tension (a)
higher-rated (a)
horsepower (see units of measurement)
hour (do not abbreviate)

I
i.e. (avoid using, use *that is*)
if (indicates condition -- can usually be used instead of *provided, provided that,* ~~*or where*~~)
igniter
ignitible (not *ignitable*)
impedance
impedance grounded neutral system
in-between (a,n)
indexes (not *indices*)
informational note (lower case when used alone in text)
inrush current
instantaneous-trip (a)
internal-combustion-driven (a)

K
knob-and-tube wiring

L
lampholder
lead-sheathed (a)
less-flammable transformers
let-through (n)
light-emitting diode (abbrev. LED)
likely (use instead of *liable*)
likely to become energized -- failure of insulation on
line-to-ground fault current
line-to-neutral loads
liquidtight (a)
live parts (electric conductors, buses, terminals, or components that are uninsulated or exposed and shock hazard exists)
load-interrupter (a)
load-side (a)
locked-rotor (a,n)
locknut (n)
long-time rating

low-power-factor (a)
low-voltage (a)
lower-rated (a)

M
make-or-break (a)
manhole
maximum
meatpacking (a,n)
messenger-supported (a)
metal (instead of metallic)
metal-clad (a)
metal-enclosed switchgear (n)
metal-sheathed (a)
metal-shield connectors (n)
metallic (use only when directly related to material)
mineral-insulated (a)
minimum
minute (do not abbreviate)
mixer–amplifier (n)
motor control (a)
motor-circuit switch (n)
motor-compressors (n)
motor-driven (a)
motor-generator (a)
motor-generator set (abbrev. MG set)
motor-starting currents
multibuilding
multiconductor (instead of multiple-conductor or multi-conductor)
multimedia
multioutlet
multiphase
multipole

N
nameplate
nameplate rating load
NEC ® (always italic, with registered trademark on first reference)
network-powered (a)
No. 20 gauge sheet metal
non–current-carrying (a)
non–grounding-type (a)
non–power-limited (a)
nonaccessible
noncontinuous
noncurrent
nondwelling unit (a)
nonexplosionproof
nonflexible
noninductive
noninterchangeability
nonmetallic
nonmetallic-sheathed (a)
nonshielded cable
nontime
not over (instead of *not more than*)
not exceeding (instead of *not more than*)
not less than

O
off-premises source
oil-break (a)
oil-filled reactors
on-premises source
open-conductor supports
open-resistance (a)
optical fiber (a)
other than a dwelling unit (avoid, use *nondwelling*)
overcurrent device
overcurrent protective device
overtemperature (n)
over-temperature (a)
overvoltage (n)

P
panelboard
parallel (instead of multiple conductors)
part-winding start induction
pendant
phase-to-phase (a)
photovoltaic
plug-in units
pole-mounted (a)
positive-pressure ventilation
power conversion system (abbrev. PCS)
power factor (abbrev. PF)
power-conditioning unit (abbrev. PCU)
power-limited (a)
power-supply cord
practicable (means feasible)
practical (means useful)
pre-amplifier
pressure terminal connectors
pressure splicing connectors
protection against physical damage (state conditions)
protector

PVC-coated (a)

R
raceway
re-fused (a)
rectifier-derived dc system
remote-control (a)
resistance temperature device (abbrev. RTD)
resistor
revolutions per minute (abbrev. rpm)
road show (a,n)
root-mean-square (a)
runoff (n)

S
screw shell
screw shell devices
second (referring to time; do not abbreviate)
secondary-circuit fault protection
secondary-to-primary (a)
semiconducting (a)
service-disconnect enclosure
service disconnecting means
service-drop conductors
service-entrance conductors
service-lateral conductors
service-supplied ac (a)
set screw type (a)
set screw (n)
sheet metal (a)
short circuit (n)
short-circuit and ground-fault protective device
short-circuit current ratings
short-time duty
shunt-trip
sidelight
side-wiring spaces
silicon controlled rectifier (abbrev. SCR)
single-conductor cable
single-phase (not 1-phase, but 2-phase, 3-phase, etc.)
single-pole (a)
skin-effect heating
small-appliance branch circuit
solid-state (a)
space-heating equipment
specific-purpose (a)
stage-lighting (a)
stage set lighting
steady-state current
steel-frame (a)
storage battery charging equipment
strain-relief (a)
strut-type (a)
sunlight-resistant (a)
sunroom
supply-side equipment
surface metal raceway
surge arrester (n)
surge-arrester (a)
surge-protective capacitors
switchboards

T
tamper-resistant (a)
temperature-rated (a)
tenpenny nail
that (use where phrase is directly related to statement; do not set off with comma)
through (instead of *thru* or *from* and *to*)
time-current characteristics
time-delay fuse
toward (not towards)
trip-type (a)
turnbuckle (n)
Type MI cable

U
under-carpet (a)
upon (overused, try to avoid; *on* usually correct)

V
voltage
voltage-drop (a)
volt (see units of measurement)
voltmeter

W
wall switch-controlled (a)
weatherproof
wet-pit (n)
when (condition of time)
where (location or situation)
which (additional information in a phrase; set off with commas)
3-wire (a)
wire-bending space
workmanlike (avoid, unenforceable)
workplace
workspace
wye circuit (n)
wye-connected (a)

X
X-ray (not X-Ray)

Units of Measurement

Code text
In the *Code* text, all units of measure, when accompanied by a number value, will be styled as follows:

feet (foot)	ft
meter	m
inch	in.
centimeter	cm
millimeter	mm
square feet	ft^2
square meter	m^2
square inch	$in.^2$
square centimeter	cm^2
square millimeter	mm^2
cubic feet per minute	ft^3/min
pounds	lb
kilograms	kg
degrees Celsius	℃
degrees Fahrenheit	℉
degree (angle)	degrees
percent	percent
thousand circular mils	kcmil
horsepower	hp (spelled out in heads)
hertz	Hz
kilovolt	kV
kilowatt	kW
kilovolt-amperes	kVA
kilovolt-amperes reactive	kVAr
volt	volt [abbreviate volt (V) when used with a number to mean rating]
ampere	ampere
watt	watt
volt-ampere	volt-ampere (spell out in heads)
megavoltampere	MVA
milliampere	mA
millivolt	mV
millivoltampere	mVA
milliwatt	mW
micrometer	µm
microjoule	µJ
joule	J
kilojoule	kJ
gallon	gal

Display text (tables, figure callouts, equations, and examples)
Units of measure are abbreviated as follows in display text. Exception: If units are used without a number preceding in a table title or table column head, units should be spelled out.

kilovolt	kV
kilowatt	kW
volt	V
ampere	A
volt-ampere	VA
kilovolt-ampere	kVA
percent	%
thousand circular mils	kcmil
degrees Celsius	℃
degrees Fahrenheit	℉

Hyphenation

Hyphenate all units of measurement when used as adjectives before a noun, except when multiple units of measurement are used in the same phrase.

Example: a 5.5-kW, 240-V dryer
a 2 in. x 2 in. x 2 in. box

Numbers

0.1 (use place-holding number before decimal)
0 through 2000 (use *through* to express range)
1000 (no comma in 4-digit numbers)
10,000
2 ½ (use case fraction)
first (not 1st)

Words or Terms Defined

When words or terms are used as themselves, they are italic.

Examples:
See Article 100 for a definition of *bonding jumper*.
The term *minimum* is used in the requirement.

Annex C
Conversion Reference Table

U.S. Customary Unit	Existing SI Unit	Proposed SI Unit	Equivalent U.S. Unit
1/32 in.		**0.8 mm**	**0.031 in.**
0.06 in.	**1.52 mm**	**1.5 mm**	**0.059 in.**
0.0625 in.	**1.59 mm**	**1.59 mm**	**0.063 in.**
1/16 in.		**1.6 mm**	**0.063 in.**
0.090 in.	**2.29 mm**	**2.3 mm**	**0.091 in.**
1/8 in.	**3.18 mm**	**3 mm**	**0.118 in.**
¼ in.	**6.35 mm**	**6 mm**	**0.24 in.**
0.375 in.	**9.52 mm**	**9.5 mm**	**0.374 in.**
3/8 in.		**10 mm**	**0.394 in.**
½ in.	**12.7 mm**	**13 mm**	**0.51 in.**
5/8 in.	**15.87 mm**	**16 mm**	**0.63 in.**
¾ in.	**19 mm**	**19 mm**	**0.75 in.**
15/16 in.	**23.8 mm**	**24 mm**	**0.945 in.**
1 in.	**25.4 mm**	**25 mm**	**0.98 in.**
1 ¼ in.	**31.8 mm**	**32 mm**	**1.26 in.**
1 ½ in.	**38 mm**	**38 mm**	**1.50 in.**
1 ¾ in.	**44.5 mm**	**45 mm**	**1.77 in.**
1 7/8 in.		**48 mm**	**1.89 in.**
2 in.	**50.8 mm**	**50 mm**	**1.97 in.**
2 1/8 in.		**54 mm**	**2.13 in.**
2 ¼ in.		**57 mm**	**2.24 in.**
2 3/8 in.		**60 mm**	**2.36 in.**
2 ½ in.	**64 mm**	**65 mm**	**2.56 in.**
3 in.	**76 mm**	**75 mm**	**2.95 in.**
3 ½ in.		**90 mm**	**3.54 in**
3 ¾ in.		**95 mm**	**3.74 in.**
4 in.	**102 mm**	**100 mm**	**3.94 in.**
4 ½ in.		**115 mm**	**4.53 in.**
4 11/16 in.		**120 mm**	**4.72 in.**
5 in.		**125 mm**	**4.92 in.**
5 ½ in.		**140 mm**	**5.51 in.**
6 in.	**152 mm**	**150 mm**	**5.91 in.**
6 ½ in		**165 mm**	**6.5 in.**
7 in		**175 mm**	**6.89 in**
7 ½ in.		**190 mm**	**7.48**
8 in.	**203 mm**	**200 mm**	**7.87 in.**
8 ½ in.		**215 mm**	**8.46 in.**
9 in.	**229 mm**	**225 mm**	**8.86 in.**
10 in.		**250 mm**	**9.84 in.**
11 ½ in.		**290 mm**	**11.42 in.**
12 in.	**305 mm**	**300 mm**	**11.81 in.**
13 in.		**325 mm**	**12.8 in.**
14 in.		**350 mm**	**13.78 in.**

15 in.	**381 mm**	**375 mm**	**14.76 in.**
16 in.	**406 mm**	**400 mm**	**15.75 in.**
17 in.		**425 mm**	**16.73 in.**
18 in.	**457 mm**	**450 mm**	**17.72 in.**
19 in.		**475 mm**	**18.7 in.**
20 in.		**500 mm**	**19.69 in.**
22 in.	**557 mm**	**550 mm**	**21.65 in.**
24 in.	**610 mm**	**600 mm**	**23.62 in.**
26 in.	**659 mm**	**650 mm**	**25.59 in.**
27 in.		**675 mm**	**26.57 in.**
30 in.	**762 mm**	**750 mm**	**29.53 in.**
36 in.	**914 mm**	**900 mm**	**35.73 in.**
38 in.		**950 mm**	**37.40 in**
40 in.	**1.02 m**	**1.0 m**	**39.37 in.**
42 in.	**1.07 m**	**1.0 m**	**39.37 in.**
44 in.		**1.1 m**	**43.30 in.**
54 in.		**1.4 m**	**55.12 in.**
96 in.	**2.44 m**	**2.5 m**	**98.43 in.**
1 ft	**305 mm**	**300 mm**	**0.98 ft**
2 ft	**610 mm**	**600 mm**	**1.97 ft**
2 ½ ft	**762 mm**	**750 mm**	**2.46 ft**
3 ft	**914 mm**	**900 mm**	**2.95 ft**
3.5 ft	**1.07 m**	**1.0 m**	**3.28 ft**
4 ft	**1.22 m**	**1.2 m**	**3.94 ft**
4 ½ ft	**1.37 m**	**1.4 m**	**4.59 ft**
5 ft	**1.52 m**	**1.5 m**	**4.92 ft**
5 ½ ft	**1.68 m**	**1.7 m**	**5.58 ft**
6 ft	**1.83 m**	**1.8 m**	**5.91 ft**
6 ft 6 in.		**2.0 m**	**6.56 ft**
6 ½ ft	**1.98 m**	**2.0 m**	**6.56 ft**
6 ft 7 in.	**2.0 m**	**2.0 m**	**6.56 ft**
7 ft	**2.13 m**	**2.1 m**	**6.89 ft**
7 ft 6 in.	**2.29 m**	**2.3 m**	**7.55 ft**
8 ft	**2.44 m**	**2.5 m**	**8.20 ft**
9 ft	**2.74 m**	**2.7 m**	**8.858 ft**
10 ft	**3.05 m**	**3.0 m**	**9.84 ft**
12 ft	**3.66 m**	**3.7 m**	**12.14 ft**
14 ft	**4.27 m**	**4.3 m**	**14.11 ft**
15 ft	**4.57 m**	**4.5 m**	**15.09 ft**
16 ft	**4.88 m**	**4.9 m**	**16.08 ft**
17 ft	**5.2 m**	**5.2 m**	**17.06 ft**
18 ft	**5.49 m**	**5.5 m**	**18.05 ft**
20 ft	**6.1 m**	**6.0 m**	**19.69 ft**
21 ft	**6.4 m**	**6.4 m**	**20.997 ft**
22 ft	**6.7 m**	**6.7 m**	**21.98 ft**
25 ft	**7.62 m**	**7.5 m**	**24.61 ft**
27 ft	**8.23 m**	**8.0 m**	**26.25 ft**
30 ft	**9.14 m**	**9.0 m**	**29.53 ft**

35 ft	**10.67 m**	**11 m**	**36.09 ft**
40 ft	**12.2 m**	**12 m**	**39.37 ft**
50 ft	**15.2 m**	**15 m**	**49.22 ft**
60 ft		**18 m**	**59.06 ft**
70 ft		**21 m**	**68.9 ft**
75 ft	**23 m**	**23 m**	**75.46 ft**
80 ft	**24.4 m**	**25 m**	**82 ft**
100 ft	**30.5 m**	**30 m**	**98.43 ft**
135 ft		**41 m**	**134.48 ft**
140 ft	**42.7 m**	**42 m**	**137.76 ft**
150 ft		**45 m**	**147.65 ft**
200 ft	**61 m**	**60 m**	**196.86 ft**
1000 ft	**305 m**	**300 m**	**984.3 ft**

INDEX

EXHIBIT 123

Errata

NFPA 70®

National Electrical Code®

2011 Edition

Reference: Various
Errata No.: 70-11-1

The National Electrical Code Correlating Committee notes the following errors in the 2011 edition of NFPA 70, *National Electrical Code*.

How to Use this Errata Sheet

This is a list of errata to the first printing of the 2011 *NEC*®. A first printing is indicated by the numeral 1 as the last digit in the line of number appearing at the bottom of the first page.

1. Page 70-36 **110.14(C)(1):** Revise 310.15(B)(6) to 310.15(B)(7)

2. Page 70-78 **Figure 230.1:** Revise ‘‘Source’’ to ‘‘Serving Utility’’ and 230.49 to 230.32

3. Page 70-86 **230.90 Exception No. 5:** Revise 310.15(B)(6) to 310.15(B)(7)

4. Page 70-102 **Table 250.3:** Revise 300.50(B) to 300.50(C)

5. Page 70-116 **250.68(C)(2)(b):** Revise to read : ‘‘By bonding the structural metal frame to one or more of the grounding electrodes, as specified in 250.52(A)(5) or (A)(7) that comply with 250.53(A)(2).’’

6. Page 70-129 **250.180:** Revise 250.190 to 250.191

7. Page 70-139 **300.5(C) Exception No. 2:** Revise 330.10(11) to 330.10(A)(11)

8. Page 70-148 **310.10(E) Exception No. 2 (d):** Revise Table 310.13(D) to Table 310.104(D)

9. Page 70-148 **310.10(F):** Remove deletion bullet and add second paragraph to read : ‘‘Cables rated above 2000 volts shall be shielded.’’

10. Page 70-154 **Table 310.15(B)(16):** Add double asterisk to 18 AWG and 16 AWG copper

11. Page 70-178 **314.16(C)(1):** Revise 314.16(C)(2) to 314.16(C)(3)

12. Page 70-240 **392.18(E):** Revise 392.10(D) to 392.18(D)

13. Page 70-282 **410.36(A):** Revise 314.27(A)(A)(2) to 314.27(A)(2)

14. Page 70-287 **410.130(D):** Revise Part XIII to Part XII

15. Page 70-288 **410.140(D):** Revise Part XIV to Part XIII

16. Page 70-327 **430.75(A) Exception No. 1 (a):** Revise Part XI to Part XII

17. Page 70-397 **504.70 Exception:** Revise 501.15(F)(3) to 501.17

18. Page 70-435 **Figure 516.3(C)(1):** Revise 3050 m to 3050 mm

19. Page 70-435 **Figure 516.3(C)(2):** Revise 3050 m to 3050 mm in two locations

20. Page 70-562 **645.10(B)(5):** Revise 645.5(D)(2) or (D)(3) to 645.5(E)(2) or (E)(3)

21. Page 70-572 **670.3(B):** Revise 670.4(B) to 670.4(C)

22. Page 70-583 **680.25(B)(1):** Revise 250.30(A)(8) to 250.30(A)(3)

23. Page 70-708 **840.47:** Revise section number from 830.47 to 840.47

Issue Date: April 8, 2011

(Note: Electronic products and pamphlet reprints may have this errata incorporated. For current information about the NFPA Codes and Standards, including this errata, please see www.nfpa.org/codelist)

EXHIBIT 124

Errata

NFPA 70®

National Electrical Code®

2011 Edition

Reference: Various
Errata No.: 70-11-2

The National Electrical Code Correlating Committee notes the following errors in the 2011 edition of NFPA 70, *National Electrical Code*.

How to Use this Errata Sheet

This is a list of errata to the first printing of the 2011 *NEC*®. A first printing is indicated by the numeral 1 as the last digit in the line of numbers appearing at the bottom of the first page.

1. Page 70-176: **Table 312.6(B), Note 3:** Change reference from 310.14 to 310.106(B).
2. Page 70-190: **324.42(B):** Change the reference in the last line from 800.133(A)(1)(c), Exception No. 2. to 800.133(A)(1)(d), Exception No. 2.
3. Page 70-233: **382.10(A):** Revise last two references from 406.4(D)(3)(b) & 406.4(D)(3)(c).to 406.4(D)(2)(b) & 406.4(D)(2)(c).
4. Page 70-234: **382.42(B):** Change cross reference from 800.133(A)(1)(c) Exception No. 2. to 800.133(A)(1)(d) Exception No. 2.
5. Page 70-282: **410.36(A):** Correct the second cross reference from 314.27(A)(A)(2) to 314.27(A)(2).
6. Page 70-342: **440.8:** Correct cross reference from 430.87 Exception to 430.87, Exception No. 1.
7. Page 70-348: **450.3(B), Exception:** Change cross reference to 430.72(C)(1) through (C)(5).
8. Page 70-815: Change running head to “Informative Annex E”.

Issue Date: January 24, 2012

(Note: Electronic products and pamphlet reprints may have this errata incorporated. For current information about the NFPA Codes and Standards, including this errata, please see www.nfpa.org/codelist)

EXHIBIT 125

AN INTRODUCTION TO THE NFPA STANDARDS DEVELOPMENT PROCESS

NFPA®

Safety Is Everybody's Business

Disasters can occur anywhere, and they often occur when we least expect them. NFPA® codes and standards are there to provide us with ways to prevent their occurrence, manage their impact, and protect us. One of the most notable features about NFPA's Standards Development Process is that it is a full, open, consensus-based process. "Full consensus" means that anybody can participate and expect fair and equal treatment. This is because safety is everybody's business.

NFPA's unique standards development process incorporates a balance of interests, ensuring that all affected parties have a voice.

A Uniquely Open Process

Today's NFPA® codes and standards trace their origins to the nineteenth century development of automatic sprinkler systems. From the beginning, sprinklers performed well as extinguishing devices; however, they originally were installed in so many different ways that their reliability was uncertain.

In 1895, a small group of concerned citizens representing sprinkler and fire insurance interests gathered in Boston, Massachusetts, to discuss the different approaches. They knew that nine radically different standards for pipe sizing and sprinkler spacing could be found within 100 miles of the city. This installation nightmare had to be resolved. The group eventually created a standard for the uniform installation of sprinklers. This standard, which eventually became NFPA 13, *Standard for the Installation of Sprinkler Systems*, prompted the creation of NFPA as an organization and was NFPA's first safety document. Today NFPA develops some 300 safety codes and standards that deal with a range of subjects related to fire, electrical, chemical, building, and life safety.

NFPA codes and standards can be found in use throughout the world. Whether it's in a computer room in the Pentagon, a research station in Antarctica, a power plant in the Middle East, the space shuttle, the hometown drycleaner or perhaps a historical library in Scotland, NFPA codes and standards are used to provide safety to life and protection of property.

What the Process can do for you

Who Is NFPA?

Founded in 1896, NFPA grew out of that first meeting on sprinkler standards. The *Bylaws* of the Association that were first established in 1896 embody the spirit of the codes and standards development process. Article 2 of these bylaws states in part:

"The purposes of the Association shall be to promote the science and improve the methods of fire protection and prevention, electrical safety and other related safety goals; to obtain and circulate information and promote education and research on these subjects; and to secure the cooperation of its members and the public in establishing proper safeguards against loss of life and property."

The NFPA mission today is accomplished by advocating consensus codes and standards, research, training, and education for safety related issues. NFPA's *National Fire Codes*® are administered by more than 250 Technical Committees comprised of approximately 8,000 volunteers and are adopted and used throughout the world. NFPA is a nonprofit membership organization with more than 70,000 members from over 100 nations, all working together to fulfill the Association's mission.

What type of people are NFPA members? NFPA membership is comprised of architects and engineers (22%); business and industry (5%); health care facilities (12%); fire service (20%); insurance (3%); federal, state, and local government (9%); safety equipment manufacturers and distributors (12%); trade and professional associations (6%); and other fields and disciplines (11%).

The Making of an NFPA Code or Standard

The NFPA Board of Directors has general charge of all of the activities of the NFPA. The Board of Directors issues all of the rules and regulations that govern the development of NFPA codes and standards. The Board also appoints a 13-person Standards Council to oversee the Association's standards development activities, administer the rules and regulations, and serve as an appeals body.

Members of the Standards Council are thoroughly familiar with the standards development functions of the Association and are selected from a broad range of interests. Appointed by and reporting to the Standards Council are the more than 250 Technical Committees and Panels that serve as the primary consensus bodies responsible for developing and revising NFPA codes and standards. In addition to acting on their own proposed changes, these Technical Committees and Panels act on proposed changes to NFPA documents that can be submitted by any interested party.

To conduct their work, Committees and Panels are organized into projects with an assigned scope of activities. Depending on the scope, a project may develop one code or standard or a group of related codes and standards, and the project may consist of a single Technical Committee or multiple Committees and Panels coordinated by a Correlating Committee that oversees the project to resolve conflicts and ensure consistency.

Rules and Participants

The primary rules governing the processing of NFPA codes and standards are the *NFPA Regulations Governing the Development of NFPA Standards*.

Other applicable NFPA rules include the *Bylaws*, the *Technical Meeting Convention Rules*, the *Guide for the Conduct of Participants in the NFPA Standards Development Process*, and the *Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council*. All rules and regulations are available on request from NFPA or can be downloaded from NFPA's website at www.nfpa.org/regs. This pamphlet is intended to give general information on NFPA's standards development process. All participants, however, should refer to the actual rules and regulations for a full understanding of this process and for the rules that govern participation.

Participants in NFPA's standards development process are as follows:

- *Interested parties including the general public*
- *Technical Committees, Panels, Correlating Committees*
- *NFPA Membership*
- *Standards Council*
- *NFPA Board of Directors*

For more than one hundred years, NFPA has kept in step with the needs of the safety community, serving as an authoritative source for information, education, and timely research worldwide.

Starting a New Project

Anyone can submit a request for a project to develop a new code or standard in accordance with NFPA Regulations, provided the necessary information is submitted on the New Project Initiation Form (www.nfpa.org/newprojectidea). The Standards Council reviews all requests and, if appropriate, directs that a notice be published in *NFPA News*, and on the NFPA website (www.nfpa.org). This notice asks for:

- *input or need on the proposed project;*
- *information on organizations that may be involved in the subject matter;*
- *a listing of available resource material; and*
- *an indication of who is willing to participate in the project if it is approved.*

The Standards Council reviews all input and information it receives about the proposed new project and, if the Standards Council determines the proposed project should proceed, it either assigns the project to an existing Technical Committee or Panel, or establishes a new one.

The mission of the nonprofit NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training and education.

Establishing a Consensus Body

In the NFPA standards development process, NFPA Technical Committees and Panels serve as the principal consensus bodies responsible for developing and updating all NFPA codes and standards. Committees and Panels are appointed by the Standards Council and typically consist of no more than thirty voting members representing a balance of interests. NFPA membership is not required in order to participate on an NFPA Technical Committee, and appointment is based on such factors as technical expertise, professional standing, commitment to public safety, and the ability to bring to the table the point of view of a category of interested people or groups. Each Technical Committee is constituted so as to contain a balance of affected interests, with no more than one-third of the Committee from the same interest category. The categories generally used by the Standards Council to classify Committee members are summarized below. The Committee must reach a consensus in order to take action on an item.

Classification of Committee Members

Insurance

Consumer

Enforcing Authority

Labor

Installer/ Maintainer

Manufacturer

Applied Research/ Testing Laboratory

User

Special Expert

The Standards Development Process

The NFPA process encourages public participation in the development of its codes and standards. All NFPA codes and standards (also referred to here as NFPA "Standards") are revised and updated every three to five years in revision cycles that begin twice each year and that normally take approximately two years to complete. Each revision cycle proceeds according to a published schedule that includes final dates for all major events in the process. The process contains four basic steps as follows:

1. Input Stage;
2. Comment Stage;
3. Association Technical Meeting;
4. Council Appeals and Issuance of Standard.

Standards Development Process Facts:

- *Standards are updated every three to five years.*
- *Approximately 8,000 volunteers serve on NFPA Technical Committees.*
- *Technical Committees and Panels represent a variety of balanced interests.*
- *Approximately 250 different Technical Committees and Panels are responsible for document development.*

STEP 1 - Input Stage

Public Input. As soon as the current edition is published, the development of the revised edition begins. A new or revised NFPA Standard enters one of two revision cycles available each year (annual or fall cycle). The revision cycle begins with the acceptance of Public Input, the public notice asking for any interested party to submit input on an existing Standard or a committee-approved new draft Standard. The Call for Public Input is published in *NFPA News*, the *U.S. Federal Register*, the American National Standards Institute's *Standards Action*, on NFPA's website, and other publications. The electronic submission system is available on NFPA's website on the document's information page at www.nfpa.org/document# (example: www.nfpa.org/101). After the Public Input closing date, the Committee or Panel has a period after the closing date to hold their First Draft Meeting.

First Draft Meeting. After the Public Input closing date, the Technical Committee or Panel holds their First Draft Meeting where the Committee revises the Standard. The Committee considers and provides a response to all Public Input. The Committee will use the input in order to help develop First Revisions to the Standard which results in a complete and fully integrated draft known as the First Draft. The First Draft has initial agreement by the Committee based on a simple majority vote during the Meeting to establish a consensus. The final position of the Committee is established by a ballot.

Committee Ballot on First Draft. The First Revisions developed at the First Draft Meeting are balloted; this means that the text the Committee wants revised in the Standard is on the ballot for approval by the Committee. Committee-approved revisions are called First Revisions, and each must be approved by two-thirds of the Committee to appear in the First Draft. Any First Revisions that do not pass the ballot appear in the First Draft Report as Committee Inputs.

First Draft Report Posted. The First Draft Report is posted on the NFPA website. The First Draft Report serves as documentation of the Input Stage and is published for public review and comment. The First Draft Report consists of the First Draft, Public Input, Committee Input, Committee and Correlating Committee Statements, Correlating Input, Correlating Notes, and Ballot Statements. The Report also contains a list of Technical Committee and Correlating Committee Members. The public reviews the First Draft Report in order to submit Public Comments on the First Draft, leading to the next stage of the process.

STEP 2 - Comment Stage

Public Comment. Once the First Draft Report becomes available, there is a public comment period during which anyone may submit a Public Comment on the First Draft. Any objections or further related changes to the content of the First Draft must be submitted at the Comment stage. After the Public Comment closing date, the Committee has a period of time to hold their Second Draft Meeting.

No Public Comments Received-Consent Document. Where no Public Comments are received and the Committee agrees that no Second Revisions are needed, the document does not continue through the Comment Stage and is sent directly to the Standards Council for issuance. Such documents are referred to as Consent Standards. When Public Comments are received and/or the Committee has additional revisions, a Second Draft Meeting is held and the Comment Stage continues.

Second Draft Meeting. After the Public Comment closing date, the Technical Committee or Panel holds their Second Draft Meeting. The Committee starts with the First Draft and makes any additional revisions to the draft Standard. All the Public Comments are considered, and the Committee provides an action and response to each Public Comment. The Committee will use the Public Comments in order to help develop Second Revisions to the Standard which results in a complete and fully integrated draft known as the Second Draft. Like the First Draft, the Second Draft has initial agreement by the Committee based on a simple majority vote during the Meeting to establish a consensus. The final position of the Committee is established by a ballot.

Committee Ballot on Second Draft. The Second Revisions developed at the Second Draft Meeting are balloted; this means that the text the Committee wants revised in the Standard is on the ballot for approval by the Committee. Committee-approved revisions are called Second Revisions, and each must be approved by two-thirds of the Committee to appear in the Second Draft. Any Second Revisions that do not pass the ballot appear in the Second Draft Report as Committee Comments.

Second Draft Report Posted. The Second Draft Report is posted on the NFPA website. The Second Draft Report serves as documentation of the Comment Stage and is published for public review. It consists of the Second Draft, Public Comments with corresponding Committee Actions and Committee Statements, Correlating Notes and their respective Committee Statements, Committee Comments, Correlating Revisions, and Ballot Statements. The Report also contains a list of Technical Committee and Correlating Committee Members. The public reviews the Report in order to decide if they want to submit a NITMAM (see Step 3).

STEP 3 - Association Technical Meeting

Following the completion of the Input and Comment stages, there is further opportunity for debate and discussion of issues through the Association Technical Meeting (Technical Meeting) that takes place at the NFPA Conference & Expo® each June.

Notice of Intent to Make a Motion (NITMAM). Where authorized, anyone who is not satisfied with the work of the Committee can submit a NITMAM. A NITMAM is an amending motion that will be heard by the NFPA Membership for consideration and debate at the Association Technical Meeting; these motions are attempts to change the resulting final Standard from what the Committee submitted for consideration as the Second Draft. Those Standards with no NITMAMs move directly to Standards Council for issuance (see Step 4). The Association Technical Meeting provides an opportunity for the NFPA membership to amend the Technical Committee Reports (i.e., the Committee's or Panel's work) on each proposed new or revised Standard.

Before making an authorized 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 NITMAM. A Motions Committee appointed by the Standards Council then reviews all notices and certifies all proper amending motions. 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 so that they can be made in one single motion. A Motions Committee report is published in advance of the Association Technical Meeting listing all certified motions. Only 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) are permitted at the Association Technical Meeting.

The specific rules for the types of amending 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.

What Amending Motions are Allowed. The motions allowed by NFPA rules provide the opportunity to propose amendments to the text of a proposed Standard based on published Second Revisions, Public Comments, and Committee Comments. Allowable motions include motions to accept Public and Committee Comments in whole or in part, to reject a Second Revision (change accepted by the Committee) in whole or part and can include the related portions of First Revisions. In addition, under certain specified instances, motions can be made to return an entire NFPA Standard to the Committee. This means the Standard will not be issued at this time and will be returned to the Committee to continue its work.

Who Can Make Amending Motions. Those authorized to make motions are also regulated by NFPA rules. In the case of a motion to Accept a Public Comment or an Identifiable Part of a Public Comment, the maker of the motion is limited by NFPA rules to the original submitter of the Comment or his or her duly authorized representative. In all other cases, anyone can make these motions. For a complete explanation, NFPA rules 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 or his or her designated representative must sign in at least one hour before the Technical Meeting begins. In this way a final list of motions can be set in advance of the Technical Meeting. The presiding officer in charge of the Technical Meeting opens the floor to motions on the Standard from the final list of Certified Amending Motions as sequenced by the Motions Committee 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 session and have registered for the Technical 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 or Panel, which conducts a written ballot on all successful amending motions following the meeting and prior to the Standard being forwarded to the Standards Council for issuance.

STEP 4 - Council Appeals and Issuance of Standard

One of the primary responsibilities of the NFPA Standards Council, as the overseer of the NFPA standards development process, is to act as the official issuer of all NFPA codes and standards.

Consent Standards. Some Standards receive no controversial proposed changes, and therefore, no NITMAMs are filed. In some cases, NITMAMs are submitted on Standards up for revision, but none of the NITMAMs are certified as proper by the Motions Committee. In both these cases where no NITMAMs are submitted or no NITMAMs are certified as proper for a specific Standard, the Standard is not placed on the agenda for the Association Technical Meeting, but is instead sent directly to the Standards Council for issuance. Such Standards are referred to as Consent Standards.

Issuance of Standards. When the Standards Council convenes to issue an NFPA Standard it also hears any appeals related to the Standard. 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 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 Standard before it, the Council, if appropriate, proceeds to issue the Standard as an official NFPA Standard. Subject only to limited review by the NFPA Board of Directors, the decision of the Standards Council is final, and the new NFPA Standard becomes effective twenty days after Standards Council issuance.

Sequence of Events for the Standards Development Process

As soon as the current edition is published, a Standard is open for Public Input.

Step 1 – Input Stage

- Input accepted from the public or other committees for consideration to develop the First Draft
- Committee holds First Draft Meeting to revise Standard (23 weeks)
  Committee(s) with Correlating Committee (10 weeks)
- Committee ballots on First Draft (12 weeks)
  Committee(s) with Correlating Committee (11 weeks)
- Correlating Committee First Draft Meeting (9 weeks)
- Correlating Committee ballots on First Draft (5 weeks)
- First Draft Report posted

Step 2 – Comment Stage

- Public Comments accepted on First Draft (10 weeks)
- If Standard does not receive Public Comments and the Committee does not wish to further revise the Standard, the Standard becomes a Consent Standard and is sent directly to the Standards Council for issuance (see Step 4)
- Committee holds Second Draft Meeting (21 weeks)
  Committee(s) with Correlating Committee (7 weeks)
- Committee ballots on Second Draft (11 weeks)
  Committee(s) with Correlating Committee (10 weeks)
- Correlating Committee First Draft Meeting (9 weeks)
- Correlating Committee ballots on First Draft (8 weeks)
- Second Draft Report posted

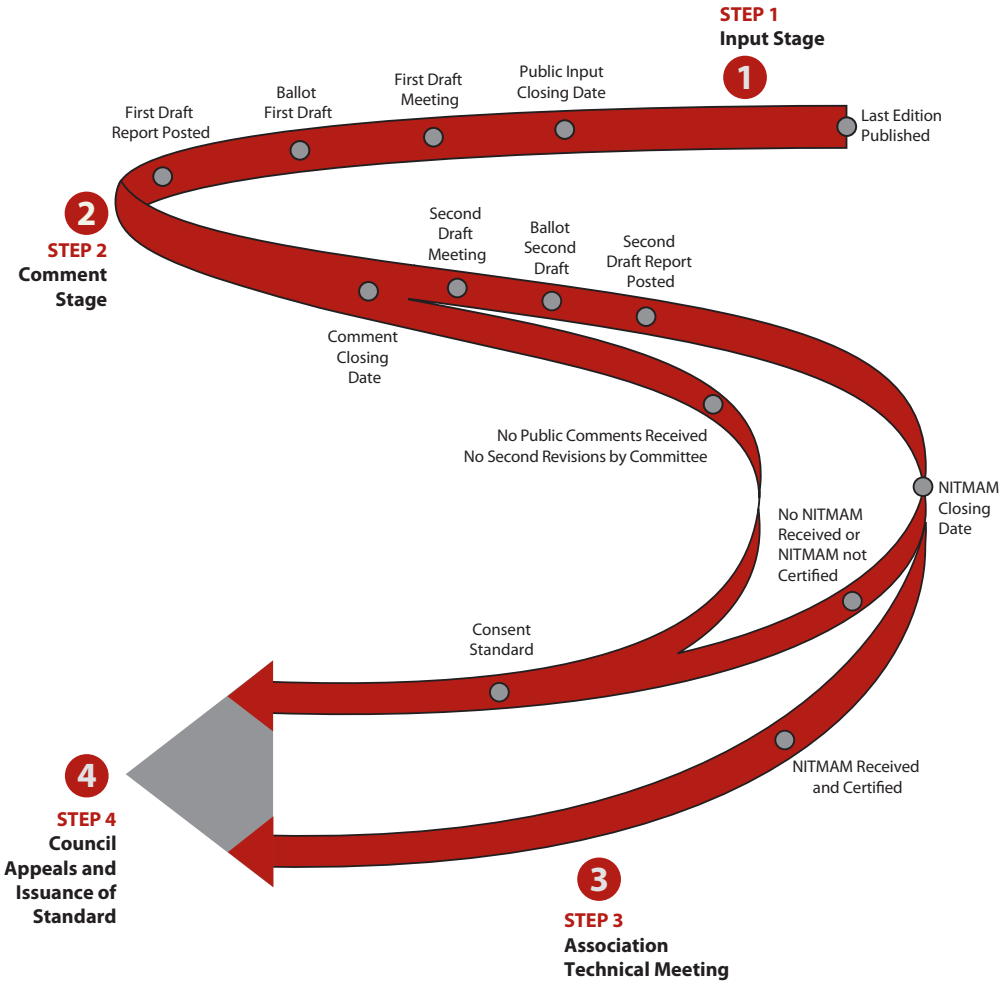
Step 3 – Association Technical Meeting

- Notice of Intent to Make a Motion (NITMAM) accepted (5 weeks)
- NITMAMs are reviewed and valid motions are certified for presentation at the Association Technical Meeting
- Consent Standard bypasses Association Technical Meeting and proceeds directly to the Standards Council for issuance
- NFPA membership meets each June at the Association Technical Meeting and acts on Standards with "Certified Amending Motions" (certified NITMAMs)
- Committee(s) and Panel(s) vote on any successful amendments to the Technical Committee Reports made by the NFPA membership at the Association Technical Meeting

Step 4 – Council Appeals and Issuance of Standard

- Notification of intent to file an appeal to the Standards Council on Association action must be filed within 20 days of the Association Technical Meeting
- Standards Council decides, based on all evidence, whether or not to issue the Standard or to take other action

The Standards Development Process



Notes on Sequence of Events for the Standards Development Process:

- Time periods are approximate; refer to published schedules for actual dates.
- It takes approximately 101 weeks for Annual revision cycle documents receiving certified amending motions.
- It takes approximately 141 weeks for Fall revision cycle documents receiving certified amending motions.

Resources

NFPA Offers Resources to Support its Standards Development Process and Improve Public Safety

NFPA documents are constantly evolving based on extensive public input and the dedicated involvement of highly qualified committee and panel volunteers. NFPA Technical Committees and others work to keep their documents current with the latest knowledge and technologies. In addition to the time and resources contributed by the thousands of dedicated volunteers, the Association helps facilitate the work of the Technical Committees and otherwise promotes NFPA's public safety mission with these important resources:

1. ***Statistical Data:*** The Fire Analysis and Research Division's One-Stop-Data-Shop (OSDS) produces a large range of annual reports and special studies on the aspects of the nation's fire problems. The data from the OSDS may be requested by Technical Committee Chairs or Staff Liaisons regarding a specific fire hazard or safety issue. National estimates of specific fire problems are generally compiled from the NFPA survey with details from the United States Fire Administration's National Fire Incident Reporting System (NFIRS). Various other data resources are also used as appropriate.

2. ***Event Analysis:*** In order to provide new information and learn lessons that can assist NFPA Technical Committees and others, the NFPA Fire Investigations Department conducts on-site investigations of disasters or near-disasters occurring all around the world. The department's reports analyze significant events (e.g., fires or explosions) focusing on how NFPA codes and standards were utilized and how NFPA codes and standards might have provided additional protection in cases where the documents were not followed.

3. ***Research:*** The Fire Protection Research Foundation (FPRF) is an important resource for the NFPA codes and standards making process. The FPRF conducts independent research on specific topics of relevance to NFPA's technical committee and code-making panel projects. Research reports are published and are utilized by Technical Committees as a resource for pertinent up-to-date information. From time to time, Committees will directly seek specific research to be done regarding the subject covered by their document. The FPRF will determine whether or not the specific study has been done before, and if it has not, they can facilitate obtaining the needed information from research, testing, consulting, or other sources. Some of these projects are completed using the FPRF/NFPA Code Fund, which is supported each year by a financial contribution from NFPA. Any representative from the Technical Committees can submit ideas to the Code Fund. The submitted project ideas are reviewed on an annual basis.

4. Empowerment Through Education: The NFPA Public Education Division is the source of fire and other hazard information to reduce residential fire deaths, injury, and property loss. The division focuses on three objectives:

- Position the NFPA Public Education Division as the primary source for fire and life safety information.
- Continuously improve strategies to train the fire service how best to reach high-risk populations.
- Increase awareness of and involvement in Fire Prevention Week.

Activities within the division include reaching out to local fire departments and schools through fire safety campaign kits and an annual Scholastic project, networking with state/provincial fire safety educators, providing fire safety information on nfpa.org and fun activities on sparky.org, advancing various training opportunities at the NFPA Conference & Expo, producing the monthly Safety Source e-newsletter, and maintaining technically correct fire safety messaging through the Educational Messages Advisory Committee. High-risk outreach activities engaging the very old, very young, urban and rural poor, and people with disabilities are an integral part of NFPA's public education efforts. These activities include outreach to urban communities, older adults, people with disabilities and Latino populations. NFPA's public education programs include the Learn Not to Burn® Preschool Program and Remembering When™: A Fire and Falls Prevention Program.

NFPA is the official sponsor of Fire Prevention Week each year to increase public awareness of the importance of fire safety education. Fire Prevention week is held throughout the U.S. and Canada during the week of October 9, to commemorate the anniversary of the Great Chicago Fire. For more than 85 years, NFPA has established the theme and developed the proclamation signed by the President of the United States each year. NFPA also devotes resources to a campaign of theme-related products and materials to help communities promote local programs related to Fire Prevention Week.

5. Literature Archives: The Charles S. Morgan Technical Library is one of the main resources used by Technical Committees to obtain both current and archival information pertinent to NFPA codes or standards. Library staff can assist committee members in tracing changes to codes, providing previous substantiation and supporting documents, and researching the origins of an article or paragraph. The library contains a large fire science collection, with more than 28,000 books, technical reports, videos, journals, and non-NFPA codes. Unique to the collection are Proceedings from NFPA and NBFU annual meetings, papers presented at NFPA annual meetings, original NFPA and NBFU standards going back to 1896, older technical committee reports and comments, and copies of NFPA publications.

6. Annual Conference: NFPA's Conference & Expo takes place each June and is one of the premier events of its kind. The Conference & Expo entails both the NFPA Annual Meeting and the Association Technical Meeting where NFPA proposed codes and standards are brought to the NFPA membership for debate and voting. It also features guest speakers and hundreds of educational programs as well as the country's largest exposition on fire and life safety products and services.

7. Worldwide Communications: NFPA Public Affairs Department oversees the corporate communications activities of the Association and coordinates public awareness and media inquiries, especially following highly publicized fire incidents and other disasters when the news media and others look to NFPA for information.

8. Technology Features: One of today's most important communication tools is the NFPA website, which provides direct support for the standards development process including the electronic submission system of public input and comments. To view document and committee specific information for a relevant NFPA code or standard, go to the document information pages on our website at: www.nfpa.org/document# (example: www.nfpa.org/101).

9. Community Partnerships: To better serve the safety community, other constituents, and its members, NFPA has established Regional Offices throughout North America and an International Operations Division which has offices in Asia, Europe, and Latin America. The primary objective of these offices is to assist constituents with the adoption and formal recognition for the use of NFPA codes and standards. NFPA endeavors to reach every audience with necessary safety information and publishes a wide range of handbooks, reference books, textbooks, videos, field guides, and training manuals.

10. Technical Questions: NFPA's 35+ person Technical and Engineering Staff serve as the staff liaisons to the NFPA Technical Committees that develop the codes and standards. These staff members are available to NFPA members and public sector officials to answer questions about the codes and standards. Each year, the staff handles tens of thousands of inquiries. For more information about submitting your questions, go to the "Technical Questions" tab on the document information pages.

11. Higher Learning: The Professional Development Department conducts specialized training seminars and workshops on NFPA codes and standards and other safety-related subjects. These popular sessions are offered to the general public but are often held for a particular audience. Training seminars and workshops occur regularly around the world and provide the latest information on the application of NFPA codes and standards as well as other state-of-the-art safety related technologies.

12. Certification: NFPA's Certification Department presently offers four recognized certification programs designed to document the minimum competency of and professional recognition to those individuals within the specified field of practice. Based on NFPA codes, standards, and technical publications, the programs are: Certified Fire Protection Specialist, Certified Fire Inspector I and II, and Certified Fire Plan Examiner. Information for each of the programs is available at www.nfpa.org/certification.

The Life Safety Code® and National Electrical Code® are in use in all 50 states in the U.S. and in numerous other countries.

How NFPA Codes and Standards are Used

NFPA codes and standards are widely adopted and used as a basis for safety regulation by government agencies as well as for private use and guidance by insurance companies, industry, and professionals and others in the areas of fire, electrical, building, and life safety. For example, NFPA aviation documents are referenced by airports throughout the world. As a further example, in the United States scores of NFPA codes and standards have been referenced by the federal government's Occupational Safety and Health Administration, the Veterans Administration, the Department of Health and Human Services, the Department of Defense, and other federal agencies.

NFPA develops "full consensus" codes and standards — codes and standards built on a foundation of maximum participation and substantial agreement by a broad range of interests. This philosophy has led to the production of reasonable, usable codes and standards that promote public safety, yet do not stifle design or development. NFPA prides itself in supporting a flexible system that depends largely on volunteers and therefore produces timely, high quality, consensus based safety codes and standards at no cost to taxpayers. Safety is everybody's business. Everyone deserves to be heard when it comes to safety. That's why, after more than 100 years, the NFPA codes and standards process has evolved into one of the fairest and most effective technical document development systems the world has ever seen.

Further Information

For further information on the NFPA standards development process, please visit the NFPA homepage at www.nfpa.org or consult the current edition of the NFPA *Standards Directory*. The homepage and the *Standards Directory* contain the *Regulations Governing the Development of NFPA Standards*, updated schedules for processing documents for the Annual and Fall revision cycles, the *Guide for the Conduct of Participants in the NFPA Standards Development Process*, and other important standards development related information.

To obtain general information regarding the standards development process, contact:

NFPA Codes & Standards Administration Department
One Batterymarch Park
Quincy, MA 02169-7471 USA
Phone: 617-770-3000 (until 5:00 PM EST)
Fax: 617-770-3500
email: stds_admin@nfpa.org

Other general information on the NFPA can be obtained by contacting:

NFPA Headquarters:
One Batterymarch Park, Quincy, MA 02169-7471 USA
Phone: 617-770-3000 (until 5:00 PM EST) Fax: 617-770-0700
http://www.nfpa.org

NFPA Customer Contact Center for Service/Sales/Membership/Technical Questions:
custserv@nfpa.org

U.S. & Canada
Phone: 800-344-3555 (8:30-5:00 PM EST)
Fax: 800-593-6372

Outside U.S. & Canada
Phone: 508-895-8300
Fax: 508-895-8301

NFPA International Department Departamento Internacional:
In Spanish / en español
Phone: 617-984-7700 Fax: 617-984-7777
global@nfpa.org

An international nonprofit membership organization established in 1896 and dedicated to reducing the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education.

Publishers of the National Fire Codes®, including the National Electrical Code® and the Life Safety Code®.

C&SBOOK 05/2012

EXHIBIT 126

Standards Committee

Procedures for ASHRAE Standards Actions

PASA

Originated: June 30, 1994
Latest Revision Approved by ASHRAE BOD: January 28, 2015
Latest Approval by ANSI: April 29, 2015

FOREWORD

The original edition of the *Procedures for ASHRAE Standards Actions* (PASA), dated June 30, 1994 superseded all previous documentation for communicating ASHRAE's procedures as a basis for continuation (re-accreditation) under the ANSI Organization Accreditation Method. PASA changes must be approved by the ASHRAE Board of Directors and ANSI.

ASHRAE publishes the following types of voluntary consensus standards:

ASHRAE Standard Method of Measurement or Test
ASHRAE Standard Design
ASHRAE Standard Practice
ASHRAE Standard Rating

Most ASHRAE Standards are of the Method of Measurement or Test type. ASHRAE Standard Design and Standard Practice documents receive the most use by consulting engineers and architects, requests for committee participation, public review comments, and adoption by code bodies. HVAC equipment manufacturers use all three types of ASHRAE Standards. The project committee voting memberships represent a balance of interest (at least User, Producer, and General) so that no one category has a majority. ASHRAE Standards are used by persons in all three-interest categories.

ASHRAE's Standard Project Committees may include persons who are not members of ASHRAE (e.g., physiologists, medical doctors, chemists, etc.).

The Summary of changes table has been moved to the end of the document.

TABLE OF CONTENTS

PROCEDURES FOR ASHRAE STANDARDS ACTIONS

1 INTRODUCTION

Founded in 1894, the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) is a technical society of more than 50,000 members, organized and operated for the exclusive purpose of advancing the arts and sciences of heating, refrigeration, air conditioning and ventilation, the allied arts and sciences, and related human factors for the benefit of the general public. ASHRAE sponsors a research program, develops standards, publishes technical data, and organizes meetings and educational activities for both its members and others professionally concerned with refrigeration processes and the design and maintenance of indoor environments. The Society also strives to promote increased public awareness of the requirements for healthful and comfortable indoor environments.

2 SCOPE

These Procedures direct ASHRAE's standards activities in the field of heating, refrigeration, air conditioning and ventilation, and the allied arts and sciences. These Procedures apply to activities related to the development of consensus for approval, revision, reaffirmation, withdrawal, and maintenance of ASHRAE Standards, and to relations with standards-related committees of other organizations.

ASHRAE leaves to trade associations the writing of rating standards unless a suitable rating standard will not otherwise be available.

3 DEFINITIONS, ABBREVIATIONS AND ACRONYMS, AND CLASSIFICATIONS

Annex A provides definitions, abbreviations and acronyms, and classifications of ASHRAE Standards.

4 APPROVAL OF PROPOSED STANDARDS

4.1 RESPONSIBILITY

The Standards Committee is responsible for formation of project committees and the development, preparation, interpretation, revision, reaffirmation, withdrawal – and submittal to the Board of Directors or its designee for approval – of ASHRAE Standards Actions. The Board of Directors or its designee will counsel and offer guidance to the Standards Committee on policy level standards.

Each member of the Standards Committee is appointed to one or more subcommittees by the chair. These subcommittees are responsible for:

- tracking the status of project committees,
- recommending ASHRAE appointments to standards-writing committees of other organizations, monitoring their activities, and maintaining ASHRAE participation in the canvass balloting activities of other standards-writing organizations, and
- ensuring the timely maintenance of existing standards in accordance with ASHRAE procedures; forming interpretations committees for standards when project committees do not exist; considering requests for development of joint sponsorship agreements; and acting in coordination with cognizant

ASHRAE Technical Committees, Task Groups or Technical Resource Groups (TC/TG/TRG) to recommend reaffirmation or withdrawal of standards.

Project Committees are appointed to develop and revise standards in accordance with approved written procedures. The project committees are responsible for the technical content of standards and addenda. The Standards Committee supervises the work of project committees to ensure that approved procedures have been followed.

4.2 STANDARDS COMMITTEE MEMBERSHIP

4.2.1 Standards Committee

The Standards Committee is a standing general committee and its members are elected by the Board of Directors. The members are selected from various interest groups to prevent dominance of any single interest and may include persons from groups such as manufacturers, consultants, educators, trade associations, government, testing/research laboratories, utilities, code bodies, contractors, consumer/users, and environmentalists. Members of the Standards Committee must be of Fellow, Member, or Associate Member grade. Members of Standards Committee may be Life Members or Presidential Members.

4.2.2 Standards Committee Subcommittees

The Standards Committee has the following subcommittees: a) the International Standards Advisory Subcommittee (ISAS), b) the Intersociety Liaison Subcommittee (ILS) c) the Planning, Policy and Interpretations Subcommittees (PPIS), d) the Standards Project Liaison Subcommittee (SPLS), e) the Code Interaction Subcommittee (CIS) , and f) the Standards Reaffirmation Subcommittee.(SRS)

4.2.2.1 International Standards Advisory Subcommittee (ISAS)

ISAS is responsible for monitoring, reporting and submitting recommendations to the Intersociety Liaison Subcommittee concerning ASHRAE's regional and international standards activities. ISAS is comprised of StdC and non-StdC members with knowledge of International Standards Development.

4.2.2.2 Intersociety Liaison Subcommittee (ILS)

ILS oversees the Society's participation in the standards work of other standards development organizations, the American National Standards Institute (ANSI), and ANSI's Technical Advisory Groups on ISO and IEC standards. ILS is comprised of StdC members only.

4.2.2.3 Planning, Policy and Interpretations Subcommittee (PPIS)

PPIS oversees the maintenance and revision of all standards writing and processing procedures and policies, recommending approvals of new Titles Purposes and Scopes and handling interpretations of existing standards when no project committee exists and evaluates requests for joint sponsorships of SCDs. PPIS is comprised of StdC members only.

4.2.2.4 Standards Project Liaison Subcommittee (SPLS)

SPLS oversees the development of standards committee documents (SCDs), training of PC Chairs, oversees work plans, and waivers of the ASHRAE Units policy. SPLS is comprised of StdC members only.

4.2.2.5 Code Interaction Subcommittee (CIS)

CIS oversees the participation by ASHRAE in the development of model codes and standards by other SDOs that have relevance to ASHRAE technical interests. CIS is comprised of StdC and non-StdC members with knowledge of model code development and the deployment of building regulations.

4.2.2.6 Standards Reaffirmation Subcommittee (SRS)

SRS serves as the project committee (consensus body) for reaffirmation, withdrawal or revision (when updating references will not make a substantive change to the standard or guideline) of existing ASHRAE standards.

SRS is a project committee of at least five (5) members, including at least three members of the StdC and applicants responding to a call for members posted in ASHRAE Standards Actions. SRS acts, in limited circumstances, as a project committee for existing standards and is subject to the rules of project committees for reaffirmations, withdrawals, and revisions only to update references, that are not themselves reaffirmations and do not cause a substantive change to the standard. SRS must comply with all ANSI requirements for openness, balance and due process. SRS may act in lieu of a PC, with the advice of the cognizant TC/TG/TRG, to recommend, reaffirm, withdraw or revise an existing standard based on updated references (that do not cause a substantive change to the standards) or add a second system of units to an existing standard, thereby making the existing standard useable in either SI or IP units. (See **Standards Action** Annex A.)

4.3 ESTABLISHMENT OF PROJECT COMMITTEES

4.3.1 Project Committees

Project committees are authorized by the Standards Committee as either Standard Project Committees (SPCs), which are ad hoc committees, or Standing Standard Project Committees (SSPCs). Project committees are the consensus-forming bodies of the Society and no single interest may have a majority vote unless waived in writing (including electronic communication) by the other interests (see balance, Annex A). Efforts to recruit materially affected and interested parties from diverse interest categories to become members of a non-balanced SPC shall be on-going and documented.

A member of the SPLS is appointed as StdC Liaison to the new project committee. A call-for-members announcement is conducted. Drawing from the resulting applications and recruiting efforts, candidate committee members are recommended in consideration of their personal expertise and their effect on committee balance. Recommended members and non-policy level PC Chairs are approved by a majority vote of a designated subcommittee of Standards Committee, normally SPLS. Standards Committee must concur by majority vote for all policy level PC Chairs.

4.3.2 Project Committee Voting Status

Project Committees may have project committee voting members (PCVM), non-voting members (NVM), project subcommittee voting members (PSVM), or consultants.

4.3.3 PC Activity Initiation

At the first official business meeting of a new PC, the PC shall vote on whether to concur with, or propose changes to, the original TPS. The PC may conduct business (for example, pass motions) only after the membership roster with at least 5 voting members has been approved by SPLS or the StdC. However, the PC Chair may hold organizational meetings for individuals interested in becoming members of the PC, and the group may begin developing the standard or guideline.

4.3.4 Use of Subcommittees

The PC Chair may organize the committee structure using formal subcommittees. If subcommittees are used, the Chair's recommendation for subcommittee Chair must be approved by SPLS. Responsibilities of various PC subcommittees typically are to develop drafts of one or more assigned clauses of a standard, annexes, or addenda; prepare a system of units; prepare text in appropriate language; establish educational activities; develop draft responses to requests for interpretation; or develop proposed responses to comments resulting from public review. Subcommittee actions shall be submitted as recommendations for action by the parent PC.

4.3.5 Project Committee Officers

PC officers consist of a Chair, Secretary, and in some cases also Vice Chair(s) and Subcommittee Chair(s). The Chair and any Vice Chairs or Subcommittee Chairs must be ASHRAE members. Only individual members as defined in Section 4.3.6 are eligible to serve as Chair, Vice Chair or a Subcommittee Chair. The Chair shall appoint a Secretary and recommend a Vice Chair, if the size or activity of the PC warrants one.

4.3.6 PC Members

A PC shall have individual members and designated PCs may have organizational members. Individual members are appointed as "personal members," not as representatives of any organization, corporation, partnership, or employer. An organizational member designates a representative, and at the organization's discretion, an alternate, to serve in the absence of the representative, to participate in PC activities in the same manner as an individual member, except that the representative and alternate may not serve as a Chair or Vice Chair of a committee in accordance with 4.3.10. There shall not be more than one PCVM from any one company, association, agency, or entity.

4.3.7 Participation in Committee Activities

Each PC member is expected to attend meetings and participate in other committee activities, such as conference calls, letter ballots, e-mail correspondence, etc. Failure to regularly do so, without an acceptable reason, shall be sufficient cause for the PC Chair to recommend to SPLS removal of a person from the PC membership roster.

4.3.8 Removal for Cause

The PC Chair may recommend removal of a PC member from the roster for due cause, by submitting a recommendation and justification in writing to the SPLS Liaison and Manager of Standards (MOS). PC Chair recommendations for termination of the membership can be based on a failure to actively participate in the PC proceedings or meet PC responsibilities, including but not limited to: missing two consecutive PC meetings without prior written approval from the PC Chair; failure to attend at least 50% of scheduled PC meetings within any twelve month period; and/or failure to return at least 60% of the letter ballots within any twelve month period. The MOS will transmit the recommendations of the PC Chair and SPLS Liaison and related correspondence to SPLS for action in a meeting or by letter ballot. The SPLS Chair may call an executive session of the SPLS or the PC to discuss the matter. Failure to fully disclose any conflict of interest shall be grounds for removal from the PC.

4.3.9 Removal for Cause Initiated by SPLS

SPLS may, without a recommendation of the PC Chair, recommend removal of one or more PC members from the roster for any of the reasons stated in 4.3.8. SPLS may also recommend removal of a PC member from the roster of one or more PCs due to a *conflict of interest* (defined in Annex A) or a violation of the ASHRAE Code of Ethics by submitting a recommendation and justification in writing to the MOS.

4.3.10 Organizational Members

Subject to approval of SPLS, the PC Chair may nominate an organization as an organizational member (OM). The designated organizational representative (OR) of the OM may serve as a PCVM or a PSVM of the PC. For consideration of appointment as an OM, the organization should normally be a governmental agency, public interest group, or organization that represents a number of entities such as a trade association. Organizations such as educational institutions or corporations and partnerships engaged in commerce shall not be eligible for OM status.

Organizations are informed of the availability of organizational memberships on specific PCs by one or more of the following:

a) notice in ASHRAE Insights, ASHRAE Journal, ANSI Standards Action, etc.;

b) posting on the ASHRAE Web Site;
c) press releases to the applicable trade press; or
d) direct communication to potential materially-affected organizations.

4.3.11 Criteria for Considering Organizational Members

The PC Chair should consider the following criteria in nominating organizations for OM status on a PC:

a) the degree to which members of the organization are materially affected by the requirements of the standard;
b) the ability of the representative of the organization to represent the interests of the members of the organization;
c) the capability of the organization to provide an individual with appropriate technical or scientific qualifications to serve as their representative, and if desired, another individual with appropriate technical or scientific qualifications to serve as an alternate organizational representative (AOR);
d) that an official representative of the organization has endorsed the member and the alternate to serve on the project committee; and
e) the willingness of the organization to abide with the terms of organizational membership.

4.4 Project Committee Size

The PC shall consist of no less than 5 PCVMs with no upper limit, including the Chair. In addition to the PCVMs, the PC membership may also include PSVMs if the PC is organized into subcommittees or NVMs if not organized into subcommittees.

5 RELATIONSHIPS WITH OTHER STANDARDS-DEVELOPING ORGANIZATIONS

5.1 General

The Standards Committee supervises ASHRAE's participation in the standards work of other organizations including the American National Standards Institute (ANSI) and international and regional standards organizations including the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

5.2 Joint Sponsorship

A request to jointly sponsor a standard shall be evaluated by the Standards Committee, considering overlap of expertise and responsibility. The evaluation must be reported to Technology Council. A recommendation for joint sponsorship including a recommendation for the lead organization shall be forwarded to the Technology Council and Board of Directors for approval. A recommendation against joint sponsorship shall be forwarded as an information item to the Board of Directors. If joint sponsorship is approved by the Board of Directors, standards-writing and approval procedures must be negotiated with the other organization by the MOS on behalf of the Standards Committee.

The standards-writing and approval procedures should be those of the lead organizations. If ASHRAE procedures are not adopted, the adopted procedures must be compatible with ASHRAE procedures in regard to openness of proceedings, public review of drafts, and delegation of technical content to the project committee.

6 COMPLIANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) REQUIREMENTS FOR ACCREDITATION

Since 1976, ASHRAE has been accredited by ANSI as a developer of American National Standards and continuation of this accreditation shall be maintained based on ASHRAE procedures and practices for standards development meeting the criteria for accreditation given in ANSI Essential Requirements: Due process requirements for American National Standards (referenced hereafter as ANSI-Essential Requirements).

7 CRITERIA FOR APPROVAL, WITHDRAWAL, AND DISCONTINUANCE OF ASHRAE STANDARDS

7.1 INTRODUCTION

Approval of an ASHRAE Standard requires verification that the requirements for due process and consensus have been met. Approval thus ensures that each ASHRAE Standard is generally acceptable to the directly and materially affected interests.

7.2 GENERAL

Standards shall be designated, developed, published, and maintained in accordance with these Procedures.

7.2.1 Public Review

7.2.1.1 Advisory Public Review (APR)

A PC may vote by majority of the voting membership to recommend to the SPLS Liaison and SPLS Chair that a draft SCD, or portion thereof, be subjected to an APR if the PC believes that the draft contains new, unusual or potentially controversial elements that the PC believes would benefit from increased public scrutiny prior to finalizing the draft for publication public review (no continuation letter ballot, no roll call vote record, no marked up roster, or submittal form is needed). Any comments received as a result of an APR are deemed to be "supportive" and do not need to be "resolved". Apart from acknowledging receipt of each comment, communication with the commenters is optional but may be undertaken to clarify a comment's intent or to invite further participation in the standard development process. The underlying concept of the APR is to gain increased public participation early in the development process and thus to deal with, and potentially resolve, controversy before publication approval is sought. APRs are not submitted through the ANSI process.

7.2.1.2 Normal Track Public Review (NTPR)

A standards action approved by the PC for publication public review that meet any of the following criteria shall be processed as a normal track:

a) there are negative votes with reason within the PC;
b) a credible threat of legal action (in writing) against ASHRAE has been made related to the proposed draft;
c) the proposed draft is related to a Policy Level Standard ; and
d) the SPLS Liaison has notified the MOS within ten calendar days, from the receipt of the package, with specific justification, that the PC has violated due process.

SPLS must approve the SCD before it can be issued for public review.

7.2.1.3 Fast Track Public Review (FTPR)

A standards action approved by the PC for publication public review that meet all of the following criteria shall be processed as a fast track:

a) there are no negative votes within the PC;
b) no credible threat of legal action (in writing) against ASHRAE has been made related to the proposed draft;
c) the proposed draft is not related to a Policy Level Standard (Policy Level PC Chair may request an exception. The SPLS Chair must grant or deny the exception within ten working days of submittal); and
d) the SPLS Liaison has not notified the MOS within ten calendar days, from the receipt of the package, with specific justification, that the PC has violated due process.

No additional approvals for issuing the SCD for public review are required.

7.2.2 Publication Approval

Approval of Standards Action by the ASHRAE Board of Directors that have unresolved objectors (commenters or negative PC votes with reason) or a threat of legal action shall be preceded by formally voted recommendations by the project committee and Standards Committee.

Approval of Standards Actions by Technology Council that are policy level SCDs that have no unresolved objectors and no threat of legal action shall be preceded by formally voted recommendations by the project committee and Standards Committee. These Standards Actions shall be reported as an information item to the ASHRAE Board of Directors.

Approval of Standards Actions that are not policy level, that have no unresolved objectors and no threat of legal action shall be preceded by formally voted recommendations by the project committee and processed for publication by ASHRAE Staff. These Standards Actions shall be reported as an information item to the Standards Committee and the ASHRAE Board of Directors.

The SCD shall be deemed to have been approved by the BOD upon approval of its designee.

7.2.3 Quorum Requirements

To conduct standards-related business at a meeting of a project committee, StdC or its subcommittees, Technology Council or the Board of Directors, a quorum must be present. A quorum exists if a majority of the voting membership is present.

7.2.4 Voting Requirements for Standards Actions

Standards actions recommendations must be approved by the project committee (consensus body) with (1) affirmative recorded votes by the majority of the membership of the project committee and (2) affirmative votes from at least two-thirds of those voting, excluding abstentions of the project committee. When recorded votes are taken at meetings, project committee members who are absent shall be given the opportunity to vote before or after the meeting. Persons who cast negative votes on a standards action shall be requested to comment on reasons for their negative votes. If the vote passes with one or more negative votes with reasons for those negative votes, the results shall be held in abeyance until the comments and attempts at resolution of comments (including those unresolved comments received in response to the formal ASHRAE public review (See Section7.4.6) are transmitted to all eligible voters and they are given an opportunity to change their vote, reaffirm their vote, or to vote. A written response to negative voters with reason voting at a meeting or via letter ballot shall be issued advising each of the disposition of the objection and the reasons why.

Standards Committee, Technology Council and the Board of Directors recommendations for standards actions must be approved by a majority of those voting at a meeting of the Standards Committee, and Board of Directors, or by letter ballot.

7.2.5 Voting Rules for Letter Ballots By Project Committees

The Chair of the PC (or its subcommittees) may authorize a letter ballot to be issued on any matter. Actions of the PC and subcommittees conducted by letter ballot require approval by a majority of the voting membership of the committee. Standards actions, and issuance or revision of an official interpretation require affirmative votes of the majority of the membership and of at least two-thirds of those voting, excluding abstentions. When a letter ballot is conducted via e-mail it is intended that members will not use “Reply to All,” but reply only to the sender of the e-mail. A written response to objectors on a letter ballot vote shall be issued, advising each of the disposition of the objection and the reasons why.

7.2.6 Negative Votes on Letter Ballots of PCs and Project Subcommittees

Persons who cast negative votes on a letter ballot shall be asked if they wish to comment on reasons for their negative votes. If the vote passes with one or more negative votes, the results shall be held in abeyance until the comments are transmitted to all eligible voters and they are given an opportunity to reaffirm their vote, change their vote or to vote (by letter ballot or at the next meeting). If a reason is not provided for a negative vote, the eligible voters are informed of the negative vote by distribution of the letter ballot results.

The Chair of the entity voting by letter ballot may offer rebuttal to the comments of the negative voters. After the eligible voters have had ample opportunity (not in excess of two weeks if by letter ballot) to reaffirm their votes, change their votes or to the vote , the results shall be final. If negative votes with comments are received on the second round, all eligible voters will be informed but no further opportunities to change votes will occur.

7.3 MAINTENANCE OF STANDARDS

ASHRAE Standards shall be maintained under periodic maintenance procedures except when use of continuous maintenance procedures has been voted by the Standards Committee. (See definitions of continuous maintenance and periodic maintenance in Annex. A.)

When a PC does not exist, a designated subcommittee of StdC shall (a) form Interpretation Committees to respond to requests for interpretation, and (b) with the advice of the cognizant Technical Committee, Task Group, or Technical Resource Group, shall provide recommendations to the Standards Committee concerning the need for reaffirmation, revision based on updated references or adding a second system of units to a standard, thereby making the standard useable in either SI or IP units, withdrawal or the need to form a new project committee to revise a standard. (See TC, TG, and TRG, Annex. A.)

7.4 DUE PROCESS REQUIREMENTS

The following represent the due process requirements for development of consensus.

7.4.1 Openness

7.4.1.1 Access

Meetings of the Standards Committee, PCs, and their subcommittees are open to all members of ASHRAE and to members of the public who are directly and materially affected by ASHRAE's standards activities. When there is a discussion of a sensitive issue or of a personal nature, the chair of any of these committees or subcommittees may declare an Executive Session, during which only members of the committee or subcommittee and such other individuals invited by the chair shall be present.

7.4.1.2 Barriers

There shall be no undue financial barriers to participation in project committees. Participation shall not be conditional upon membership in ASHRAE or in any standard cosponsoring organization, or unreasonably restricted on the basis of technical qualifications or other such requirements. (See **due process** in Annex A.)

7.4.1.3 Notice

Timely and adequate notice of the initiation and development of a new standard or a substantively revised standard and the establishment of a new PC shall be on the ASHRAE web site. In addition, proposals for new American National Standards and proposals to revise, reaffirm, or withdraw approval of existing American National Standards shall be transmitted to ANSI for listing in Standards Action. Notices should include a clear and meaningful description of the purpose of the proposed activity.

7.4.2 Lack of Dominance

The standards development process shall not be dominated by any single interest category, individual or organization. Dominance means a position or exercise of dominant authority, leadership, or influence by reason of superior leverage, strength, or representation to the exclusion of fair and equitable consideration of other viewpoints. Unless a claim of dominance is submitted in writing (electronic communications) by a directly and materially affected party, no test for dominance is required. (See Section 7.4.3, and **balance**, **dominance**, and **interest category** in Annex A.)

7.4.3 Balance and Interest Categories

Historically the criteria for balance are that a) no single interest category constitutes more than one-third of the membership of a consensus body dealing with safety-related standards or b) no single interest category constitutes a majority of the membership of a consensus body dealing with other than safety-related standards.

The interest categories appropriate to the development of consensus for a standard are a function of the nature of the standard being developed. In defining the interest categories appropriate to the standards activity, consideration shall be given at least to the following:

Producer
User
General

Where appropriate, more detailed categories or subcategories may be considered.

7.4.4 Additional Procedures

ASHRAE shall, as deemed appropriate and needed, provide additional forms, commentary, examples, educational materials, and related information that will support the application and use of these procedures.

7.4.4.1 Appeals to BOD

Annex B provides an appeal mechanism for procedural complaints regarding any BOD action or inaction.

7.4.4.2 Complaints of Inactions by the Standards Committee, its Subcommittees or Project Committees

In addition to formal appeal of Board standards actions or inactions, failure of the Standards Committee, its subcommittee(s), or a Project Committee to consider a written request may be addressed by writing (including electronic communication) to the Manager of Standards at any time. (See Annex D.)

7.4.5 Public Review Period

The public review comment period shall normally be the minimum allowed by ANSI unless more time is justified. Limited revisions (ISCs) and addenda up to 5 pages may have a 30 day comment period.

7.4.6 Consideration of Public Review Comments Received

All comments to public review drafts shall be submitted electronically via the online comment database. An exception to this rule may be granted by the MOS if the commenter can demonstrate that he/she does not have ready access to the internet. The PC Chair or his/her designee shall submit responses to commenters electronically in the medium specified by MOS.

Public Review Comments received during open public review shall be reported to all members of the PC. Prompt consideration shall be given to all public review comments, including those received through ANSI. An effort to resolve all negative public review comments shall be made, and each negative commenter shall be advised in writing (including electronic communication) of the disposition of the objections and reasons there for. (See **substantive change** in Annex A.) After consideration of comments or because of new information received, the PC may make changes to the draft. Any substantive changes in the draft must be approved and

voted on by the PC for publication public review. The PC may consider any public review comments received after the close of the public review period, or shall consider them as a new proposal.

7.4.6.1 Late Comments Received Under Periodic Maintenance

Comments received after close of open public review under ASHRAE's periodic maintenance procedures may be held for consideration at the next revision at the discretion of the PC.

7.4.6.2 Comments Received Under Continuous Maintenance

An SSPC that is designated by the Standards Committee as operating under continuous maintenance procedures shall take documented, consensus action on each request for change to any part of its standard.

7.4.7 Consideration of Standards Proposals

Prompt consideration shall be given by the Standards Committee to proposals made for developing new standards or revising, reaffirming, or withdrawing existing standards.

7.4.8 Records

Records shall be maintained to provide evidence of compliance with the record retention policy in the ANSI Procedures. Records concerning new, revised, or reaffirmed periodic maintenance standards shall be retained for one complete standards cycle, or until the standard is revised. Records concerning new, revised or reaffirmed continuous maintenance standards shall be retained for a minimum of five years or until the standard is completely revised or reaffirmed. Records concerning withdrawn standards shall be retained for at least five years from the date of withdrawal.

7.5 CONSENSUS

Evidence of consensus associated with the approval of an SCD by the PC shall be documented.

7.6 CRITERIA FOR APPROVAL

With respect to any proposal to approve, revise, or reaffirm an ASHRAE standard, evidence shall be considered that:

(a) the applicable procedures were followed.
(b) the SCD is within the scope of ASHRAE's ANSI registered standards activities,
(c) notice of the development process for the standard was provided to ANSI in accordance with PINS or its equivalent,
(d) any identified conflict with another ASHRAE or American National Standard was addressed in accordance with the ANSI ER,
(e) other known national standards were examined with regard to harmonization and duplication of content, and if duplication exists, there is a compelling need for the standard,
(f) ANSI's patent policy is met,
(g) ANSI's policy on commercial terms and conditions is met if applicable,
(h) consensus was achieved, including evidence of the following:
    i. the applicable procedures were followed;
    ii. the SCD is within the scope of the registered standards activity;
    iii. declaration that conflicts with another ANS have been addressed per procedures;
    iv. a roster of the consensus body indicating the votes of each member, each member's interest category and a summary of the vote; and
    v. identification of all unresolved negative views and objections, with the names of the objector (s), and a report of attempts toward resolution.
(i) Any appeal meeting the criteria of B1 through B6 of Annex B was completed.

In addition, ASHRAE shall consider any evidence provided that the proposed standard is contrary to the public interest, contains unfair provisions, is unsuitable for national use, contradicts federal law(s), or is technically inadequate.

ASHRAE shall not approve standards that duplicate existing or proposed American National Standards unless there is a compelling need.

7.7 CRITERIA FOR WITHDRAWAL OF STANDARD

7.7.1 Requirements

In considering a proposal for withdrawal of an existing ASHRAE Standard, the Standards Committee shall consider evidence that:

(a) due process requirements were met,
(b) consensus was achieved concerning the withdrawal of the existing standard, or consensus is lacking for its continued approval,
(c) the proposal for withdrawal as an ANSI/ASHRAE Standard was provided to the administrator(s) of the appropriate USA Technical Advisory Group(s) and
(d) any appeal to ASHRAE was completed.

7.7.2 Withdrawal for Cause

In the case of a proposal to withdraw an existing ASHRAE Standard for cause, the Standards Committee shall consider evidence that:

(a) a significant conflict exists with an American National Standard,
(b) ANSI's patent policy was violated,
(c) opportunity for consideration of revision was given but revision was not completed, or
(d) the ASHRAE Standard:
    1. is contrary to the public interest,
    2. contains unfair provisions,
    3. is technically inadequate, or
    4. is unsuitable for national use.

7.7.3 Other Bases for Withdrawal of Approval

The ASHRAE Board of Directors or its designee also may withdraw approval of an ASHRAE SCD upon (a) advice of counsel, based on evidence of a legal nature, or (b) consideration of facts that have subsequently come to the attention of the Board.

7.8 STANDARD PROJECT DISCONTINUANCE

7.8.1 Project Discontinuation Due to Lack of Membership

If a PC Chair and membership are not submitted by the TC or SPLS Liaison within twelve months after the project is approved, the MOS shall:

a) automatically discontinue if this is a new project where the formation of a PC and TPS have been approved, or
b) where a revision committee has been authorized, automatically refer the disposition to SRS for either reaffirmation publication public review or withdrawal public review.

Waivers for project discontinuation shall be approved by SPLS and StdC. If the project is discontinued ASHRAE shall notify ANSI.

7.8.2 Project Discontinuation Due to Lack of Performance

If the PC has not officially met for 12 months or is not advancing the development of the SCD in a timely manner then the SPLS Liaison shall determine whether another Chair should be sought or, whether the matter should be sent back to PPIS to re-evaluate the need for the project. If the project is discontinued ASHRAE shall notify ANSI.

7.9 Final Notice

Notice of the final action on standards shall be announced on the ASHRAE web site.

7.10 Emergency Interim Standards Action

Emergency Interim Standards Action may be taken by the Society President, without completing all elements of due process, on an ASHRAE standard that has been published or has received publication approval by the Board of Directors. An Emergency Interim Standards Action has effect for limited duration and is for the exclusive purpose of correcting errors, other than errata, when failure to take timely corrective action would:

a) substantively undermine the purpose or technical credibility of the standard, taken as a whole, or
b) constitute undue risk to health or safety of the public or users of the standard.

The Manager of Standards shall notify ANSI if Emergency Interim Standards Action has been taken on a published or candidate American National Standard.

When an Emergency Interim Standards Action is taken, the Standards Committee shall initiate concurrent development of a revision or addendum, or initiate withdrawal procedures, to permanently correct the problem using ASHRAE's consensus procedures. If corrective standards action is not approved by the Board of Directors for publication within two years, the Emergency Interim Standards Action shall be immediately terminated. (See Annex D.)

7.11 Interpretation Requests of Standards

Interpretation requests for a standard must be submitted to the MOS in writing. The Assistant Manager of Research & Technical Services or the Chair of the current or past cognizant PC or the Chairs designee may respond in writing to written requests for unofficial personal interpretations. Cognizant SSPCs, if they exist, and SPCs that have not yet been disbanded will be asked to respond to requests for official interpretations in writing. If no PC exists, StdC will form an Interpretations Committee (IC) to respond. Procedures for interpretations of published SCDs are provided in StdC MOP Reference Manual Section 10. An issuance or revision of an official interpretation requires affirmative votes for the majority of the memberships of each approving and of at least two-thirds of those voting, excluding abstentions.

7.-12 Interpretation Requests of ASHRAE Standards Development Procedures

Interpretations requests for ASHRAE's standards development procedures must be submitted to the MOS in writing. ASHRAE Staff may respond in writing to written requests for unofficial personal interpretations. Requests for official interpretations of procedures shall be submitted to PPIS. An issuance of an official interpretation requires affirmative votes for the majority of the memberships of PPIS and of at least two-thirds of those voting, excluding abstentions.

8 PROCEDURES FOR SYNCHRONIZATION OF THE ASHRAE AND INTERNATIONAL STANDARDS REVIEW AND APPROVAL PROCESS

When opportunities arise, the Standards Committee will encourage PCs to synchronize the review and approval process for ASHRAE and international standards consistent with ANSI procedures. If it is recommended that ASHRAE should use the expedited procedures for the identical adoption of an International Standards Organization (ISO) or International Electrotechnical Commission (IEC) standard the procedures in ANSI Procedures for the National Adoption of ISO and IEC Standards as American National Standards shall apply.

9 PATENTS

ASHRAE agrees to comply with the Patent Policy as stated in ANSI Essential Requirements.

10 COMMERCIAL TERMS AND CONDITIONS

ASHRAE agrees to comply with the Commercial Terms and Conditions policy as stated in ANSI Essential Requirements.

11 ANTITRUST POLICY

ASHRAE agrees to comply with the Antitrust Policy as stated in ANSI Essential Requirements.

12 PINS

At the initiation of a project to develop or revise an ASHRAE American National Standard, ASHRAE shall use the ANSI Project Initiation Notification System (PINS) form. Comments will be addressed in accordance with clause 2.5 of the current version of the ANSI ER.

This normative annex is part of the Procedures (PASA)

ANNEX A: DEFINITIONS, ABBREVIATIONS AND ACRONYMS, AND CLASSIFICATIONS

A1 DEFINITIONS

addenda: revisions to a standard in the form of a supplement.

alternate organizational representative (AOR): an individual empowered by an organizational member of a project committee to act on their behalf in the activities of the project committee when the representative of the organizational member is absent.

annex: an appendix or attachment. See **informative annex** and **normative annex**

balance: a condition existing when a) no single interest category constitutes more than one-third of the membership of a consensus body dealing with safety or b) no single interest category constitutes a majority of the membership of a consensus body. (Also see 7.3.3)

clause: the basic component in the subdivision of the text of a standard**.** See **subclause** and **paragraph**.

code intended standard: A standard intended to be adopted as a code using code language.

code language document: A document that presents a set of requirements related to the design, application, or use of HVAC&R and related technologies where all or portions of the document may be enacted as mandatory enforceable requirements by a political jurisdiction. Portions intended to be enforced *(normative)* are written in mandatory, enforceable language. Portions not intended to be enforced are identified as *informative* and are to be located in informative notes, in informative annexes (appendices) or in other advisory documents. See annex, informative annex, informative notes and normative annex.

cognizant TC/TG/TRG: the ASHRAE Technical Committee, Task Group, or Technical Resource Group within whose scope a particular standard's technical content most logically falls. The cognizant TC/TG/TRG provides technical advice to the Standards Committee when a Standard Project Committee does not exist.

conflict (between standards): refers to a situation where, viewed from the perspective of an implementer, the terms of one standard are inconsistent with the terms of another standard such that implementation of one standard necessarily would preclude proper implementation of the other standard in accordance with its terms.

Conflict of interest: any incompatibility between an individual's private interests and his or her fiduciary duties as an ASHRAE volunteer.

consensus: substantial agreement, in the judgment of a duly appointed authority, reached by directly and materially affected interest categories. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution. It is not required that each separate interest subcategory reach consensus on the standard. For ASHRAE standards projects and any jointly sponsored standards projects that use ASHRAE Procedures, the project committee is the consensus forming body. "Duly appointed authority" means the Board of Directors of ASHRAE and, in the case of jointly sponsored standards, the Boards of Directors of ASHRAE

and the joint sponsor(s). For American National Standards, "duly appointed authority" means the ANSI Board of Standards Review.

continuous maintenance: maintenance of a standard by an SSPC for which procedures have been established to consider and process proposed changes as they are received.

dominance: a position or exercise of dominant authority, leadership, or influence by reason of superior leverage, strength, or representation to the exclusion of fair and equitable consideration of other viewpoints.

draft types:

advisory public review draft: a draft submitted for public review that contains unusual, potentially controversial or new elements that the **project committee** believes would benefit from increased public scrutiny prior to finalizing the draft for publication public review.

publication public review draft: a draft approved for public review that will proceed directly to publication if, as a consequence of the review, no **substantive changes** are made to the draft.

working draft: an unapproved draft produced for consideration by the **project committee** or a subcommittee.

due process: a course of proceedings carried out in accordance with established rules and principles. Due process allows for equity and fair play for all participants. It means that any person with a direct and material interest in a standard has a right to participate by (a) expressing a position and its basis, (b) having that position considered, and (c) appealing if adversely affected.

Emergency Interim Standards Action: action taken by the Society President, without completing all elements of due process, on an ASHRAE standard that has been published or has received publication approval by the Board of Directors. An Emergency Interim Standards Action has effect for limited duration and is for the exclusive purpose of correcting errors, other than errata, when failure to take timely corrective action would:

(a) substantively undermine the purpose or technical credibility of the standard taken as a whole, or
(b) constitute undue risk to health or safety of the public or users of the standard.

errata: a list of errors discovered after a document is published.

Examples: typographical errors
misprints
misspellings
grammatical errors
omission of material approved by the StdC
erroneous inclusion of material

fast track: an approval procedure for a **standards committee document** that meets these criteria:

a. there are no negative votes within the PC;
b. no credible threat of legal action (in writing) against ASHRAE has been made related to the proposed draft;
c. the proposed draft is not related to a Policy Level Standard (Policy Level PC Chair may request an exception. The SPLS Chair must grant or deny the exception within ten working days of submittal); and
d. the SPLS Liaison has not notified the MOS within ten calendar days, from the receipt of the package, with specific justification, that the PC has violated due process.

(See **normal track**)

five-year review: a review of need for **standards action**, scheduled so that processing and final approval of the resulting recommended action may reasonably be expected within five years from the date of Board approval of publication of ASHRAE Standards and Guidelines, or within five years of ANSI approval as an American National Standard.

foreword: introductory remarks, not part of the standard.

independent substantive change (ISC): a substantive change that is independent of any other substantive change and that does not significantly affect any other requirement in the standard. See **substantive change**.

informative annex: additional information of a non-mandatory nature. Changes to informative annexes are considered non-substantive. Informative annexes can be changed or deleted without requiring public review. See **normative annex and notes**.

informative language: language used in those elements of an SCD for which compliance is not required, often characterized by the use of "should" or "may."

Informative notes: explanatory information, appearing in a standard, that does not contain requirements or any information considered indispensable for the use of the standard. Informative notes are to begin with the word "(Informative Note(s))" and be placed after the section of the standard to which the note applies. If the "informative note" is more than two sentences, the information shall be placed in an informative annex and referred to by the informative note. Where there is more than one informative note, the notes must be numbered sequentially.

interest: the perspective of a member of a project committee, as judged by his or her present and past sources of income, fees, or reimbursements of related expenses, in the context of the purpose and scope of the project committee. The perspective may also be judged by the recorded views of the individual, or of any organization he/she is employed by or of which he/she is a member.

interest category: a category identified to represent a specific interest.

interest categories: a classification of project committee member **interests**. For some projects, it may be appropriate to designate subcategories of one or more interest category. Default interest categories are:

Producer: A member who represents the interest of those that produce materials, products, systems, or services covered in the project scope.

User: A member who represents the interest of those that purchase or use materials, products, systems, or services other than for household use covered in the project scope.

General: A member who cannot be categorized in any other approved interest category covered in the project scope.

Additional examples of interest categories and subcategories that have been used can be obtained from the MOS.

International Organization for Standardization (ISO): an international non-treaty standards organization based in Geneva, Switzerland. Its members, national standards bodies, promulgate standards covering all fields except electrical. The American National Standards Institute is the U.S. member body.

international organizational liaison (IOL): a non-voting representative of an international trade or professional organization, international standards committee, or other group with an interest in the work of the PC.

interpretation: the written explanation of the meaning of specific provisions of a standard or guideline, as determined by the project committee or the interpretations committee in response to an inquiry.

interpretations committee (IC): a committee of technically qualified individuals whose function is to interpret an ASHRAE standard or guideline.

mandatory language: language that prescribes the requirements of a standard in a manner that is clear and unambiguous. It provides a basis for determining, without a doubt, whether or not compliance with the standard has been achieved. It is often characterized by the use of "shall" or "must."

non-substantive changes: non-substantive changes are limited to:

a) changes to the main body of text of the standard or guideline to update information references; to correct errata, punctuation or grammar, typographical errors or style; or to add equivalent SI or I-P values;
b) changes to the foreword, membership rosters, or other adjuncts not part of the standard or guideline; and
c) changes to informative appendices or annexes not part of the standard or guideline.

normal track: an approval procedure applied to a **standards committee document** that meets one or more of these criteria:

a) receives one or more negative votes upon approval for publication or
b) where ASHRAE receives a written legal threat or
c) is a policy level standard.

(See **fast track**)

normative annex: additional information of a mandatory nature which, for reasons of convenience, is placed after the main body of the document. See **informative annex.**

Non-Voting Member (NVM): An NVM is an additional type of membership for PCs not formally organized into subcommittees. NVMs are not eligible to vote on PC motions. NVMs are not included in interest balance or quorum requirements.

organization: a group of people representing a particular **interest** such as a trade association, public interest group, or government agency.

Organizational Member (OM): An OM is an organization with a voting representative on the PC that represents the interests of that particular organization rather than serving as an individual.

policy level document: a **standards committee document** designated as "policy level" by the Board of Directors or the Board's designee.

Project Committee Voting Member (PCVM): PCVMs are eligible to vote on PC motions. PCVMs are also eligible to vote on subcommittee motions to which the PCVM is appointed.

Project Subcommittee Voting Member (PSVM): PSVMs are eligible to vote on subcommittee motions to which the PSVM is appointed. PSVMs are not eligible to vote on PC motions. PSVMs are not included in interest balance and quorum requirements for the PC.

periodic maintenance: review and action on a nominal 5-year cycle to revise a standard or to reaffirm or withdraw a standard.

project committee (PC): a Standard Project Committee or Standing Standard Project Committee.

public review comment: views and/or objections to standards or addenda to standards submitted in accordance with procedures specified in the public review draft during a public review.

rating: the assigned values of those performance characteristics, under stated conditions, by which a piece of equipment may be chosen to fit its application. These values apply to all equipment of like nominal size and type (identification) produced by the same manufacturer.

standard rating: a rating based on tests performed at standard rating conditions.

application rating: a rating based on tests performed at application rating conditions (other than standard rating conditions).

rating conditions: a set of operating conditions under which a level of performance is determined or measured.

standard rating conditions: rating conditions used as the basis of comparison of performance characteristics.

shall: a verb use to indicate a requirement.

should: a verb used to indicate a recommendation.

SPLS liaison: a member of the **Standards Project Liaison Subcommittee** (SPLS) assigned to act as a Standards Committee advisor to a **project committee**.

standard: a document established by authority or rule that defines properties, processes, dimensions, materials, relationships, procedures, concepts, nomenclature, or test methods for rating purposes. Adherence to due process in its development and achievement of consensus are conditions of approval.

standards action: an action recommending or approving publication of a new, revised, or reaffirmed standard or withdrawal of a standard.

Standards Action: a periodical published by ANSI to inform interested persons about American National Standards (ANSs), including proposals to initiate projects to develop or revise ANSs, announce intent to reaffirm or withdraw existing ANSs, communicate status of international standards, announce public review of proposed or revised procedures of ANSI accredited standards developers, etc.

Standard Project Committee (SPC): a committee of technically qualified individuals with a balanced representation of interests whose function is to formulate, review, reaffirm, or revise an ASHRAE standard. The SPC is the consensus-forming body and is responsible for the technical content of the standard. It is discharged upon publication of the standard.

Standing Standard Project Committee (SSPC): a committee similar in membership and function to a Standard Project Committee except that the committee has a continuing assignment of duties and responsibilities with respect to a standard. It is expected to provide addenda as needed, generate revision on a regular basis, and render interpretations.

subcommittee, project committee: a group of individuals appointed by the project committee chair from among the project committee membership who vote on subcommittee activities and whose responsibility it is to develop drafts of one or more assigned sections of a standard, annexes, or addenda; develop draft responses to requests for interpretation; or develop proposed responses to comments resulting from public review; all submitted as recommendations for action by the parent project committee.

substantive change: a change that involves an important (has value, weight or consequence), fundamental (is the foundation, without which it would collapse), or essential (belongs to the very nature of a thing) part or changes the meaning of the material or that directly and materially affects the use of the standard. Changes that may be found substantive when examined in context.

(a) "shall" to "should" or "should" to "shall;"
(b) addition, deletion or revision of mandatory requirements, regardless of the number of changes; or
(c) addition of mandatory compliance with referenced standards.

Changes or deletions made to portions of a draft not intended as part of the approved standard (e.g., a foreword, informative annex or note), are not considered substantive.
See **independent substantive change**.

system of units: inch-pound units (I-P) or International System of Units (SI).

Technical Resource Group (TRG): a committee of technical experts appointed by TAC, to prepare or review technical material for standards, the ASHRAE Handbook, Journal articles and technical papers.
unit conversions - definitions:

alternate system of units: the system of units listed second (expressed in parentheses when dual systems, I-P and SI are used, expressed in either consistent rational or equivalent values.)

equivalent: exact arithmetic conversions, also called "soft conversion."

primary system of units: the system of units listed first (expressed in rational values).

rational: based on, or derived from, logical or coherent numbers. Rational values are usually, but not necessarily, rounded numbers. Rational values are not necessarily bound by mathematical equivalency of the primary and secondary units systems. The conversion process is sometimes called "hard conversion."

unresolved public review commenter: an individual who, during the comment period, submitted public review comments to a proposed or revised draft standard, guideline or addendum, was not satisfied with the committee response to those comments and, within the time period and procedure specified in the response, requested to remain "unresolved".

A2 ABBREVIATIONS AND ACRONYMS

ANS American National Standard

ANSI American National Standards Institute

ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

BOD Board of Directors

CIS Code Interaction Subcommittee

IC interpretations committee

IOL international organizational liaison

I-P inch-pound units: units using inches, pounds, and other designations; as opposed to SI units in the metric system. Examples are: foot, Btu, horsepower, gallon.

ISC independent substantive change

ISO International Organization for Standardization

MOS Manager of Standards

PC Project committee. Refers to both an SPC and an SSPC. The use of this acronym means that a procedure applies to both.

PCVM project committee voting member

PPIS Planning, Policy and Interpretation Subcommittee

PSVM project subcommittee voting member

SCD Standards Committee Document

SI Le Systeme International d'Unites; the international agreement on the metric system of units. A practical system of units divided into three classes: *base* units, *derived* units and *supplementary* units. The base units are composed of the units of the following seven quantities: length (meter), mass (kilogram), time (second), electric current (ampere), thermodynamic temperature (Kelvin), amount of substance (mole), and luminous intensity (candela).

The second class of SI units contains *derived units*, i.e., units that can be formed by combining base units according to the algebraic relations linking the corresponding quantities. The names and symbols of some units thus formed in terms of base units can be replaced by special names and symbols which can themselves be used to form expressions and symbols of other derived units.

A third class of SI units, called *supplementary units*, contain the SI units of plane and solid angle. (Ref. Le Systeme International d'Unites)

SPC Standard Project Committee. The use of this acronym means that a procedure applies only to an SPC and not to an SSPC.

SSPC Standing Standard Project Committee. The use of this acronym means that a procedure applies only to an SSPC and not to an SPC

SPLS Standards Project Liaison Subcommittee

SRS Standards Reaffirmation Subcommittee

StdC Standards Committee

TAC Technical Activities Committee

TC Technical Committee appointed by the TAC

TRG Technical Resource Group appointed by TAC

TG Task Group appointed by the Technical Activities Committee

TPS Title, Purpose and Scope

This normative annex is part of the Procedures (PASA)

ANNEX B: APPEALS OF BOARD OF DIRECTORS' STANDARDS ACTIONS OR INACTIONS

B1 SCOPE

This procedure applies to appeals of ASHRAE Standards and of jointly sponsored standards for which ASHRAE is the lead sponsor.

B2 APPEALABLE MATTERS

An action or inaction of the Board of Directors (BOD) to adopt a new ASHRAE standard, an addendum to an existing standard, or to revise, reaffirm, or withdraw an existing ASHRAE standard is subject to appeal.

B3 WHO MAY APPEAL

Any person directly and materially affected by the publication of a new, revision, reaffirmation, or withdrawal of an ASHRAE standard, or lack of such action, may appeal the BOD action or inaction. The appellant must be an unresolved public review commenter, associated with a new, revision, reaffirmation or withdrawal of the ASHRAE standard being appealed, or a PC member who cast a negative vote with reason(s) in relation to his/her vote on the consensus body associated with the creation, revision, reaffirmation or withdrawal of the ASHRAE standard being appealed.

B4 SCOPE OF APPEAL AND BURDEN OF PROOF

An appeal of a BOD standards action or inaction shall be solely based upon procedural grounds. When appeals are filed, the appellant shall demonstrate that ASHRAE Standards development procedures were not followed. Appeals arguments that are based on actions that took place in previous revision cycles will not be considered.

B5 CONTENT OF APPEALS

Each appeal shall:

(a) Identify the appellant, and include the appellant's contact information;
(b) Substantiate that the appellant is directly and materially affected by action(s) being appealed;
(c) Identify with precision the standard or portions thereof, and the procedure(s), alleged improper action or inaction appealed;
(d) State concisely the basis for the appeal, the remedial action requested, and the nature of any injury to appellant which might accrue from the matter appealed;
(e) Include any summary supporting data or documentation relied upon as the basis for the appeal;
(f) Consolidate information to be as concise as possible;
(g) Only include information that was made available to the PC prior to the final vote of the PC;
(h) Include the filing fee.

B5.1 FILING FEE

Each appeal shall be accompanied by a filing fee in the amount established by the Technology Council. The filing fee is predetermined and shall be listed on the Appeals Submittal Form. The fee may be waived or reduced by the Chair of the Technology Council upon sufficient evidence of hardship submitted by the appellant. If the filing fee is not submitted by the appeal filing deadline date by the appellant then the appeal shall be dismissed unless an exception has been granted prior to the close of business on the filing deadline date.

B5.2 COPIES

It shall be the responsibility of the appellant to submit an electronic copy and if requested by the Manager of Standards, up to twenty-five (25) paper copies of each appeal filed at the time of the original electronic submittal.

B6 NOTIFICATION PROCEDURES

Within 15 days following BOD action on a standard, that results in approval of a new, revision, reaffirmation or withdrawal of a standard or addenda to a standard, the Manager of Standards (MOS) shall notify in writing (including electronic communication) all unresolved public review commenters and/or a PC member who cast negative votes with reason(s) in relation to his/her vote on the consensus body of the BOD action and inform them of their right to appeal that action.

B6.1 An appeal, must be received by the Manager of Standards (MOS) of ASHRAE within 15 working days of the date on the notification letter regarding the BOD action. The Chair of the Appeals Board may grant an extension, if requested prior to the close of the initial 15 working day period and if sufficient justification is provided.

B6.2 Normally, any standards action by the BOD will be suspended during pendency of appeal(s), appropriately filed. The President may, however, maintain the BOD action until and if the Appeals Panel decides to dismiss the appeal, without a hearing, up to a maximum of 90 days. If the Panel decides to dismiss the appeal without a hearing, the President may maintain the action until the next meeting of the Board of Directors. The appealed BOD action shall be immediately suspended if the Appeals Panel does not dismiss the appeal.

B6.3 The MOS shall acknowledge receipt of the appeal, copy acknowledgement to the Chief Staff Officer, notify the President, and send copies of the appeal to the Appeals Board Chair and to the Chairs of Technology Council, Standards Committee and the Project Committee (PC) which developed or revised the standard, if applicable. Upon receipt of the appeal, an Appeals Panel will be established in accordance with Section B8 for the purpose of determining if the appeal will be heard or if the appeal will be dismissed without a hearing.

B7 APPEALS BOARD

B7.1 An Appeals Board and a chair of the Board shall be appointed by the ASHRAE President, with the approval of the Board of Directors. The Appeals Board shall have 15 members. The Appeals Board shall consist of past members of the BOD, past members of the Standards Committee or Technology Council, and/or persons who are knowledgeable about the ANSI Standards development process.

B7.2 Terms of Membership
Terms shall be staggered so that approximately one-third of the membership of the Appeals Board is appointed each year. Members shall be appointed for a term of three years commencing on July 1, and shall be eligible for reappointment for one additional 3-year term, for a total of two consecutive terms. A member of the Appeals Board may serve beyond the normal two-term limitation if the member is serving as chair, provided the term of chair is contiguous with the six-year tenure as a member. The total maximum length of service under such circumstances would be nine years.

B7.3 Vacancies
A vacancy in the membership of the Appeals Board shall be filled for the remainder of the term by an individual appointed by the ASHRAE President.

B7.4 Conflict of interest
A member of the ASHRAE Appeals Board shall act at all times in a manner that promotes confidence in the integrity and impartiality of ASHRAE's processes and procedures and should avoid a conflict of interest or the appearance of a conflict of interest in connection with all ASHRAE Appeals activities. Should the Appeals Board Chair have a conflict of interest with any appeal he/she shall select another member of the Appeals Board to serve is his/her place with respect to consideration of that appeal.

If a materially affected party (either the appellant or the respondent) asserts that it believes a member of the ASHRAE Appeals Board has a conflict of interest, that materially affected party is required to state the reason(s) for its belief. That information shall then be forwarded to the member of the ASHRAE Appeals Board identified as having a possible conflict for that person's response. If that member disagrees with the assertion, then the Chair of the ASHRAE Appeals Board shall make a final determination as to whether a conflict of interest exists.

Members of the ASHRAE Appeals Board who are disqualified from a particular discussion shall not participate in the arguments, deliberations or decisions.

B7. 5 When appeals of jointly sponsored standards are being considered by ASHRAE as lead sponsor or by ANSI, the joint sponsor shall assist in preparing or responding to appeals in its field of expertise.

B8 CONSIDERATION OF APPEALS

B8.1 When an appeal is received by ASHRAE Headquarters in accordance with Section B6.3 six members of Appeals Board shall be randomly selected from a pool of all Appeals Board members that do not have a conflict to hear the appeal. At least four of those selected shall be appointed as the Appeals Panel and the other 2 shall be appointed as alternates. The Appeals Panel alternates will participate in the hearing activities in the event that one of the four other members are unable to serve. The Appeals Board chair will chair the Appeals Panel.

B8.2 Members of the Appeals Panel shall not have been a PCVM or PSVM on the project committee that is the subject of the appeal during the three years prior to the standards action under appeal. Members of the Appeals Panel shall not have voted on the draft that is the subject of the appeal as a member of the Standards Committee or Board of Directors.

B8.3 The Appeals Panel shall first decide if the appeal shall be dismissed without a hearing. Non-compliance with Section B5 or lack of grounds for an appeal may be reasons for dismissal. To assist in

this decision, the Appeals Panel Chair may request a rebuttal statement from the respondent (the Chair of the Standards Committee or his/her designee, or the Chair of the PC or his/her designee), as appropriate. The Appeals Panel Chair shall inform the appellant within 30 days of the receipt of the rebuttal whether the appeal will be dismissed without a hearing, decided after a hearing, or decided without a hearing.

B8.4 If the appeal is not dismissed, the BOD action which has been appealed shall be immediately suspended, if not already suspended according to the first sentence of B6.2, and each claim in the appeal shall be considered separately and basic grounds given for each decision. The Appeals Panel shall decide whether a hearing is warranted or if a decision can be made and reported to the President on the appeal without a hearing.

B9 HEARING OF APPEALS

B9.1 Notice

If the appeal is to be heard, the Appeals Panel chair shall arrange for consideration of the appeal by meeting, or documented telephone conversations. Both the appellant and the respondents (the Chair of the Standards Committee or his/her designee, or the Chair of the PC or the Chair's designee, as appropriate) shall be given at least 45 days notice of the hearing date (from the date on the notification letter), location, and time for a hearing or 30 days notice of the hearing date (from the date on the notification letter) for a hearing conducted by conference call. The 30 or 45 days may be waived if the appellant and the respondents agree in writing (including electronic communication). During this period a rebuttal of the written statement of appeal shall be submitted to the MOS who shall distribute it to the Appeals Panel and to the Appellant. The rebuttal, if not previously requested, from the respondent(s) shall be due within 15 working days of the date on the letter of notification. The Chair of the Appeals Panel may grant an extension if requested prior to the close of the initial 15 working day period and if sufficient justification is provided. The rebuttal statement shall be sent to the MOS, who shall distribute it to the appellant and the Appeals Panel.

B9.2 The Hearing

At the hearing, the appellant and respondent(s) shall provide the Chair of the Appeals Panel with 15 copies of an outline of their oral presentation or a copy of what will be displayed for their electronic presentation. No new issues outside of those issues raised in the submitted appeal may be presented at the hearing. Only documentation that the Appellant/Respondent has already been given, which supports raised issues, will be permitted in the presentation. Both the Appellant and the Respondent are permitted to have people speak on their behalf (i.e.: experts). However, each party is only allowed a designated amount of time and that time will be shared by any and all people speaking for that party. No additional time will be granted for guests, speakers, experts, etc.

B9.3 A Standards Committee Liaison and the BOD Ex-Officio member of the Standards Committee shall be invited by MOS to attend the hearing. The hearing shall be open to representatives of directly and materially affected persons, although the number of any interest group may be limited at the discretion of the Appeals Panel Chair. Anyone planning to attend the hearing shall notify the MOS within a minimum of 15 days prior to the hearing date. The deliberations of the Appeals Panel shall be held in Executive Session.

B10 APPEALS PANEL DECISION

The Appeals Panel shall decide within 45 days of the hearing, by majority vote, that the appeal, or any parts of the appeal, be upheld or denied. The Appeals Panel Chair shall, within 14 days following the Appeals Panel's decision, notify the appellant(s), Chief Staff Officer, Director of Technology, Manager of

Standards, President, Chair of Technology Council, Chair of the Standards Committee, and Chair of the PC of the decision. The decision of the Appeals Panel to uphold, deny, or dismiss an appeal shall be final. If the appeal is dismissed or denied by the Appeals Panel, the action of the BOD, which was appealed shall become effective immediately.

This normative annex is part of the Procedures (PASA)

ANNEX C: COMPLAINTS OF ACTIONS OR INACTIONS BY THE STDC, ITS SUBCOMMITTEES OR PCs

In addition to formal appeal of BOD Standards actions or inactions (PASA Annex B), failure of the StdC, its subcommittee(s), or a PC to consider a written request may be addressed by writing to the MOS at any time.

a) A written complaint shall be sent to the MOS and the MOS shall forward it to the Chair of the Committee in question. The MOS shall acknowledge receipt of the complaint (i.e., Subject Committee Chair).

b) The Subject Committee Chair shall provide a written response to the complainant, with a copy to the MOS within 15 working days of receipt of the complaint. A waiver to the response period may be requested by the Chair or ASHRAE Staff to the Chair of the next higher body. (e.g. StdC Chair for a PC Chair). The waiver request shall be promptly addressed.

c) The complainant shall notify the Subject Committee Chair and MOS in writing within 15 days from the receipt of the response whether or not the response resolves the complaint. If no response is received then the higher body, the complainant and the Subject Committee Chair will be notified that the complaint is resolved.

d) If the response does not resolve the complaint, the complaint shall be forwarded to the next higher body. The next higher body shall place it on its next agenda for consideration but a meeting shall be called no later than 15 working days after receipt of the complaint.

e) When the complaint has been heard by the next higher body, the Chair of that body shall notify the complainant in writing, with a copy to MOS, and to the Chair of the committee in question of the committee's decision within 15 days. (The next higher body is the committee, which approves the actions of the committee in question).

f) The final level to resolve the complaint shall conclude at Technology Council. Should the unresolved complaint reach Technology Council, Technology Council shall have the authority to decline to hear the complaint.

This normative annex is part of the Procedures (PASA)

ANNEX D: UNITS POLICY

The units use or application policy shall include, as a minimum, time-dated directions on the use of SI and I-P in all ASHRAE publications.

TC 1.6 shall serve as the authority on SI and I-P usage and application.

Research projects; codes, standards, guidelines, and addenda thereto; special publications; Insights articles; Journal articles; and Handbooks shall be prepared using the International System of Units (SI) and/or inch pound units (I-P) in formats approved by the Publishing and Education Council.

The Publishing and Education Council shall review annually the approved formats to be used in AHSRAE publications, considering suggestions from members and committees, and shall establish any changes in the approved formats.

The Publishing and Education Council shall consider this Units Policy annually and shall recommend to the Board of Directors the formats to use in ASHRAE publications.

(a) The format for ASHRAE publications shall be dual units, except in cases determined by the Publishing and Education Council, where two separate versions are to be published, where one is rational SI and the other is rational I-P. For selected ASHRAE standards and guidelines, the Standards Committee may approve use of SI units only.

(b) In dual unit publications, the units used in calculating the work being reported shall be listed first. The alternate system of units should follow in parentheses. Authors shall round off equivalents in the alternate system of units so that they imply the same accuracy as is implied with primary units. Exceptions require the approval of the Director of Publishing and Education. Handbook volumes shall be published in separate SI and I-P editions.

This normative annex is part of the Procedures (PASA)

ANNEX E: Procedures – Emergency Interim Standards Action

E1 Justification

The burden of demonstrating need for an Emergency Interim Standards Action rests with the proposer. Interested persons may submit proposals for Emergency Interim Standards Actions to the MOS. Proposals must include the following information:

a) identify the proposer, affiliation and contact information:
b) identify the standard or guideline and clause containing the error,
c) describe the error claimed and provide supporting information or data, if any,
d) recommend a change in text, equation, etc. that would eliminate the error or reduce it to acceptable limits and provide supporting information or data, if any,
e) show compliance with the criteria of Section 6.9(a) or 6.9 (b), and
f) identify the type of harm that has been or may be caused by the error.

Proposals that meet the criteria of Section 6.9 shall be forwarded to the body designated in E5.

E2 PC or PPIS Recommendation

When a PC having jurisdiction exists, the PC shall submit a recommendation to the MOS on disposition of a proposed Emergency Interim Standards Action at a PC meeting or by letter ballot within 14 days. When a PC does not exist, PPIS shall act in lieu of a PC.

E3 MOS Recommendation

If the PC or PPIS fails to submit a recommendation within 14 days, the MOS shall submit his/her recommendation.

E4 Review and Comment

Upon receipt of a recommendation resulting from E2 or E3, the MOS shall circulate the proposed Emergency Interim Standards Action and recommendation within seven days to the StdC, the Director of Technology, and the MOS for review and comment.

E5 President Will Act

A package composed of the proposed Emergency Interim Standards Action, recommendations resulting from E2 or E3, and recommendations from the Standards Committee Chair, Director of Technology, and MOS, whether positive or negative, shall be submitted within 14 days of receipt by the MOS for the President's consideration and decision.

E6 Notifications

The MOS shall issue notification of the President's decision to the proposer, the Editor of the ASHRAE Journal, and ANSI, and shall initiate implementation of the decision as appropriate.

Revision	Changes	BOD Approval Date
Original Release	The original edition of the *Procedures for ASHRAE Standards Actions Under the ANSI Organization Method* (PASA), dated June 30, 1994 superseded all previous documentation for communicating ASHRAE's procedures as a basis for continuation (re-accreditation) under the ANSI Organization Accreditation Method.	**June 29, 1994**
A	The first revision was approved by the Board of Directors on February 2, 1995 and incorporated nine changes for clarifications and in response to comments resulting from ANSI public review of PASA.	**February 2, 1995**
B	On April 28, 1995, staff incorporated clarifying revisions to the figures in informative Appendix C and added a new Figure 6. ANSI reaccredited ASHRAE on August 4, 1995 based on this edition.	**April 28, 1995**
C	The third revision was approved by the ASHRAE Board of Directors on June 27, 1996 and incorporated twelve changes in response to recommendations in the ExSC Appeals Panel decision letter dated April 23, 1996, the draft ANSI Report of Audit of ASHRAE procedures and operations dated June 10, 1996, and the need for clarification.	**June 27, 1996**
D	The fourth revision included broadening the section on membership, by allowing for possibilities for organizational membership. Additionally, this revision incorporates some changes involving written responses to commenters and resolution of commenters. The ASHRAE Board of Directors approved this version January 27, 1999. ANSI reaccredited ASHRAE on May 7, 1999.	**January 27, 1999**
E	This revision includes changes to allow the newly approved *Board Policy Committee for Standards* to have oversight authority for certain project committees. It also deleted references to specific sections of ANSI procedures so that revision to PASA would not be necessary when section numbering in the ANSI procedures changed. The ASHRAE Standards ftp site (ftp.ashrae.org/stds-info) is now utilized as the means for advertising standards activities, in lieu of the ASHRAE *Journal*. The records retention policy has been clarified, and the references to formal Mediation Meetings have been removed. Finally, the appeals procedures were modified to more closely match the ANSI appeals procedures. ANSI reaccredited ASHRAE on November 21, 2001.	**June 29, 2000**
F	Editorial revision of Section 6.2.1.2 made to reflect the oversight authority of the Board Policy Committee for Standards.	**February 1, 2001**
G	Editorial revision of Sections 4.1 and 6.2 made to reflect removal of Appendix C.	**June 27, 2001**
H	This revision included changes in Sections 6.2.1.2-6.2.1.3.2 to require letter ballot votes for publication approval by the Consensus Body. Appendix B3 was revised to further clarify the appeals process.	**January 17, 2002**
I	This revision includes changes in Sections 5, 6.3.6, 6.2.1.3, the Appendix A1 definition of "balance," and the addition of Section 8 – Patents. Appendix B was revised to assign final approval of appeals to the Board Policy Committee for Standards.	**June 27, 2002**
J	This revision includes changes in sections 4.1, 6.2.1, 6.2.2, A1, and A2 to change the reference from Technical Evaluation Committees (TEC's) to Technical Resource Groups (TRG's). Changes were also made to sections 6.3.1.3 and 6.7 to remove the reference to the ASHRAE ftp site.	**January 30, 2003**

K	This revision includes the addition of a sentence to section 6.3.4.2 (Complaints of Inactions) that clarifies who addresses complaints.	**July 3, 2003**
L	This revision addresses the following issues: the clarification of ANSI requirements, removal of the Board Policy Committee for Standards (BPCS) oversight responsibility and changes to the appeals process.	**July 1, 2004**
M	This revision replaces language that was inadvertently deleted in the Nashville revision, to provide the provision to appoint the Appeals Panel Chair.	**June 30, 2005**
N	This revision includes revisions to section 4.3.2 (Joint Sponsorship) so that the MOS can negotiate terms of the joint sponsorship agreements. Changes were made to B6, B9.1, and B9.2 to clarify the appeals process. Section B9.2, The Hearing, was added to clarify the rules during the Appeals hearing.	**January 26, 2006**
O	This revision includes revisions to Section 4.3.2 (Joint Sponsorship) and removes approval by Technology Council and the BOD of the final negotiated cosponsorship agreement.	**March 20, 2006**
P	This revision includes adding the terms "including electronic communication" to Section 4.2.1.1, Section 6.4.3.2, and B9.1. This also includes revisions to 4.3.2 to clarify the language regarding Joint Sponsorship approval. Section 9, Commercial Terms and Conditions, was added. The definition of contact information was added to Appendix A. Revisions were made to Section B5 to add request for contact information and to limit the materials that are allowed in appeals.	**June 29, 2006**
Q	This revision includes adding the cm records retention policy to Section 6.3.8, adding Section 6.7, Interpretation Requests, and adding Annex C, Units Policy to PASA per the request of ANSI.	**March 2, 2007**
R	This revision in the Introduction section includes, moving part of the information to an informative forward.	**October 24,2008**
S	This revision in Section 3, changes Appendix to Annex.	**October 24, 2008**
T	This revision in Section 5 deletes text from ANSI Essential Requirements	**October 24, 2008**
U	This revision in Section 6.2.1, (Approval) includes Technology Council in the approval of publication drafts	**October 24, 2008**
V	This revision includes in Section 6.2.1.2, (Voting Requirements for Standards Actions), changing the vote from letter ballot to recorded votes, adding Technology Council and allowing the Board or its designees to vote.	**October 24, 2008**
W	This revision includes the deletion of Section 6.2.1.3	**October 24, 2008**
X	This revision includes in Section 6.2.2 (Modification of Standards) the addition of the need for a revision to a standard.	**October 24, 2008**
Y	This revision to Section 6.2.4 (Substantive Changes) deletes the entire section.	**October 24, 2008**
Z	This revision to Section 6.3.2 (Balance and Lack of Dominance) changes it to read like ANSI Essential Requirements 2008.	**October 24, 2008**
A	This revision to Section 6.3.3 (Interest Categories) deletes language in order to simplify the interest categories.	**October 24, 2008**
AB	This revision to section 6.3.4.1 (Appeals to BOD), includes the change from Appendix to Annex and includes the deletion of identifiable, realistic and readily available text.	**October 24, 2008**

AC	This revision to Section 6.3.6(Consideration of Comments Received) includes the addition of language specifying Public Review. Title reflects as Consideration of Public Review Comments Received and within the paragraph, "public review" was inserted.	**October 24, 2008**
AD	This revision to Section 6.4 (Consensus) was rewritten to require documentation that the consensus is in accordance with ANSI Essential Requirements and PASA.	**October 24, 2008**
AE	This revision to Section 6.5 (Criteria for Approval) modified letter (i) to change Appendix to Annex.	**October 24, 2008**
AF	This revision to Section 8 (Patents) was editorially modified. Removed the text "such" and "or guideline" from the first sentence.	**October 24, 2008**
AG	This revision to Appendix A includes: • The deletion of ASHRAE Information Representative • Modification of the definition of balance by deleting "dealing with product standards." • Modified definitions of continuous maintenance definition and interest category • Modified definition of informative annex • Modified interest categories definition; deleted the definition for all subcategories, user, producer and general • Added a Method of Test Standard definition • Modified the definition for normative annex • Modified the definition for public review comment • Deleted testing standard definition • Modified unresolved commenter definition • Deleted Section A3	**October 24, 2008**
AG	This revision to Appendix B includes: • Appendix B2, deleted the availability of EISA's to be appealed to the Board as this can be handled through the complaint process • Appendix B3, modified who the appellant must be and how the vote should be casted • Appendix B5.2, inserted the word "copies" • Appendix 6, specified who the MOS should notify, public review commenters and/or a PC member who cast negative votes with reason(s) in relation to his/her vote on the consensus body • Appendix B10, added language requiring that the Appeals Panel vote within 45 days of the hearing whether or not the appeal is upheld or denied.	**October 24, 2008**
AH	This revision to Section 4.1 includes the addition of the word *publishing*.	**February 25, 2011**
AI	This revision to Section 6 title includes the addition of language for discontinuing ASHRAE standards.	**February 25, 2011**
AJ	This revision to Section 6.3.6 includes language in the first paragraph straight from the PC MOP regarding information about the online comment database.	**February 25, 2011**

AK	The revision to Section 6.5 includes added and deleted language. The additions are from the ANSI Essential Requirements and are listed below: • Notice of the development process for the standard was provided to ANSI in accordance with PINS or its equivalent • Identification of all unresolved negative views and objections, with names of the objector(s), and a report of attempts toward resolution • The standard is within the purpose and scope approved by the Standards Committee • ….and if duplication exists, there is a compelling need for the standard • ANSI's policy on commercial terms and conditions is met if applicable The deletion of Section 6.5 includes: • StdC prohibitions of commercial references, exclusive use of proprietary materials, or prescribing a proprietary agency for quality control or testing are met, and	**February 25, 2011**
AL	The revision to Section 6.7, 6.7.1 and 6.7.2 includes the addition of language regarding the criteria for project discontinuance. The previous sections 6.7 and 6.8 been renumbered due to this addition to 6.8 and 6.9 respectively.	**February 25, 2011**
AM	Section 6.10 was added, it includes the word *writing* to clearly specify the method in which interpretation requests are received and responded to. It also editorially corrects the spelling of the word *revision*.	**February 25, 2011**
AN	The revision of Section 8 deletes the entire paragraph and adds a blanket statement "ASHRAE agrees to comply with the Patent Policy as stated in the ANSI Essential Requirements."	**February 25, 2011**
AO	The revision of Section 9 deletes the entire paragraph and adds a blanket statement "ASHRAE agrees to comply with the Commercial Terms and Conditions Policy as stated in ANSI Essential Requirements."	**February 25, 2011**
AP	This revision adds a Section 10 which includes information regarding PINS. It states" At the initiation of a project to develop or revise and ASHRAE American National Standard, ASHRAE shall use the ANSI Project Initiation Notification System (PINS) form.	**February 25, 2011**

AQ	The revision to Annex A includes deletions of definitions. Deleted definitions include: • ASHRAE Alternate – a designated alternate to the ASHRAE Representative appointed by the Standards Committee of another organization and empowered to vote on behalf of ASHRAE on matters dealing with standards. (See ASHRAE Representative) • ASHRAE Representative – an official representative of ASHRAE appointed by the Standards Committee to a committee of another organization and empowered to vote on behalf of ASHRAE on matters dealing with standards. • Contact information – name, affiliation, mailing address, email address, daytime telephone numbers and facsimile numbers • Independent substantive change – a substantive change that is independent of any other substantive change and that does not significantly affect any other requirement in the standard. See substantive change. • Method of Test Standard – a standard setting forth the methods of measuring capacity or other characteristics of a specified material, component, or system, together with a specification of instrumentation, procedure, and calculations. • TC Technical Committee appointed by the TAC	**February 25, 2011**
AR	The revision to Section A2 includes the addition of the terms below: • BOD Board of Directors • PPIS Planning, Policy and Interpretations Subcommittee • SCD Standards Committee Document • SPLS Standards Project Liaison Subcommittee • SRS Standards Reaffirmation Subcommittee • TPS Title, Purpose and Scope The revision to Section A2 also includes a deletion of the terms below: • TC/TG/TRG a TC, TG or TRG • TC Technical Activities Committee	**February 25, 2011**
AS	The revision to Section 6.2.1 removes one of the approving bodies, Technology Council.	**February 25, 2011**
AT	The revision to Section 6.2.1.2 removes Technology Council and clarifies comment resolution attempts. It also notes that comments received that are not relevant to the proposed standards action under consideration shall be treated as a new proposal.	**February 25, 2011**
AU	The revision to Section 6.5 ensures that all procedures were followed and it provides the procedures for documenting consensus.	**February 25, 2011**
AV	This revision adds a sentence to Section 10 which states: Comments will be addressed in accordance with clause 2.5 of the current version of the ANSI ER.	**February 25, 2011**
AW	The revision to Annex A adds definitions for informative language and notes. It also updates the current definitions; continuous maintenance, informative annex, normative annex, shall, should, standard, and unresolved public review commenter.	**February 25, 2011**
AX	The revision to Section B9.1 decreases the notice time to 30 days for appeal hearings if the appeal hearing is being held via conference call.	**February 25, 2011**

AY	The revision to Section 4.2.1.1makes PASA consistent with ASHRAE's Project Committee Manual of Procedures.	**May 15, 2012**
AZ	The revision to Section 6.3.5 makes PASA consistent with ANSI ER.	**May 15, 2012**
BA	The revision to Annex B would provide a larger pool of members to expeditiously hear appeals.	**May 15, 2012**
BC	The revision to Section 6.2.1.2 brings PASA in line with StdC MOP and StdC Reference Manual.	**June 27, 2012**
BD	The revision to Section 6.3.6 is a direct result from the ExSC comments during the last public review of PASA. Procedures are included from when a Project Committee makes substantive changes to the draft after consideration of comments or when new information is received.	**June 27, 2012 (PASA Reaccredited 10/12/12)**
BE	Editorial change to Section 6.3.6.2, deleted last part of the sentence that states "in accordance with the continuous maintenance schedule."	**September 27, 2013**
BF	The revision to Section 4 adds additional information regarding Standards Subcommittees and its function as well as membership, most of this information was pulled from the PC MOP per ANSI's request to streamline our documents.	**PASA Reaccredited October 22, 2014**
BG	The revision to Section 7.2.1adds information regarding the different types of Public Review and the publication approval level requirements. Section 7.2.4 also clarifies the voting requirements for Standards Actions, 7.4.2 and 7.4.3 clarifies lack of dominance and balance and interest categories. Section 7.6 clarifies criteria for approval. Section 7.8 allows SPLS and StdC to approve waivers for discontinuing a project. Section 7.11 supplies additional guidance for interpretation requests. PPIS can approve interpretations to the Standards Development Procedures.	**PASA Reaccredited October 22, 2014**
BH	Annex A and A2 was revised to include additional definitions. Annex B was revised to clarify appealable matters, content of the appeal, filing fee, notification procedures, and conflict of interest. Annex C (Complaints of Actions or Inactions by the StdC, its Subcommittees or PC's) and Annex E (Emergency Interim Standards Action) were added into PASA.	**PASA Reaccredited October 22, 2014**
BI	Annex A - editorial updates were made to the definitions: *notes* and *code language document*. "*Notes*" is now "*Informative Notes*".	**November 10, 2014**
BJ	Section 4.2.2.6 clarified SRS will comply with ANSI requirements of openness, balance and due process. Section 7.11 adds the Chair's designee can also issue official interpretations of standards. Section 11 Antitrust Policy was added to PASA. Annex A, informative notes was clarified. Annex B removes the option for technical appeals.	**PASA Reaccredited April 29, 2015**
BK	Section 7.4.4.1 was editorially corrected to mirror Annex B. (removes technical appeals)	**PASA – editorial September 3, 2015**

EXHIBIT 127

FORM FOR PROPOSALS FOR 2011 NATIONAL ELECTRICAL CODE®

INSTRUCTIONS — PLEASE READ CAREFULLY

Type or print **legibly** in **black** ink. Use a separate copy for each proposal. Limit each proposal to a **SINGLE** section. All proposals **must be received by NFPA by 5 p.m., EST, Friday, November 7, 2008**, to be considered for the 2011 National Electrical Code. Proposals received after 5:00 p.m., EST, Friday, November 7, 2008, will be returned to the submitter. If supplementary material (photographs, diagrams, reports, etc.) is included, you may be required to submit sufficient copies for all members and alternates of the technical committee.

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 .....

Street Address ..... **City** ..... **State** ..... **Zip** .....

Please indicate organization represented (if any) .....

1. Section/Paragraph .....

2. Proposal Recommends (check one): ☐ new text ☐ revised text ☐ deleted text

3. Proposal (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~~).]

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

5. Copyright Assignment

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

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

.....

I agree that any material that I author, either individually or with others, in connection with work performed by an NFPA Technical Committee shall be considered to be works made for hire for the NFPA. To the extent that I retain any rights in copyright as to such material, or as to any other material authored by me that I submit for the use of an NFPA Technical Committee in the drafting of an NFPA code, standard, or other NFPA document, I hereby grant and assign all and full rights in copyright to the NFPA. I further agree and acknowledge that I acquire no rights in any publication of the NFPA and that copyright and all rights in materials produced by NFPA Technical Committees are owned by the NFPA and that the NFPA may register copyright in its own name.

Signature (Required) .....

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL • NFPA Fax: (617) 770-3500

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471

7/17/2007

EXHIBIT 128

FORM FOR PROPOSALS FOR 2008 *NATIONAL ELECTRICAL CODE®*

Mail to: **Secretary, Standards Council**
National Fire Protection Association
1 Batterymarch Park, P.O. Box 9101
Quincy, Massachusetts 02169-7471

Fax to: **(617) 770-3500**

FOR OFFICE USE ONLY
Log # _____
Date Rec'd _____

Notes:
1. All proposals must be received by 5:00 p.m. EST on Friday, November 4, 2005.
   Proposals received after 5:00 p.m. EST, Friday, November 4, 2005, will be returned to the submitter.
2. Type or print legibly in black ink. Limit each proposal to a SINGLE section. Use a separate copy for each proposal.
3. If supplementary material (photographs, diagrams, reports, etc.) is included, you may be required to submit sufficient copies for all members and alternates of the technical committee.

Please indicate in which format you wish to receive your ROP/ROC: ❑ electronic ❑ paper ❑ download

Date _____ **Name** _____ **Tel. No.:** _____

Company _____

Street Address _____

Organization Represented (if any) _____

1. Section/Paragraph _____

2. Proposal Recommends (check one) ❑ new text ❑ revised text ❑ deleted text

3. Proposal (include proposed new or revised wording or identify wording to be deleted). Note: Proposed text should be in a 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~~).

4. Statement of Problem and Substantiation for Proposal. Note: State the problem that will be resolved by your recommendation; give the specific reason for your proposal and include copies of the tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.

5. ❑ **This Proposal is original material.** Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought, or research and, to the best of his/her knowledge, is not copied from another source.

❑ **This Proposal is not original material; its source (if known) is as follows:** _____

If you need further information on the standards-making process, please contact the Standards Administration Department at (617) 984-7249.
For technical assistance, please call NFPA at (617) 770-3000.

I hereby grant the NFPA all and full rights in copyright, in this proposal, and I understand that I acquire no rights in any publication of NFPA in which this proposal in this or another similar or analogous form is used.

_____
Signature (required)

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL

EXHIBIT 129
(FILED UNDER SEAL)

EXHIBIT 130

From: Pace, John </O=ASTM/OU=FIRST ADMINISTRATIVE GROUP/CN=RECIPIENTS/CN=JPACE>
Sent: Tuesday, March 24, 2009 5:29 AM
To: Hooper, Kathe <khooper@astm.org>
Subject: Fw: Question related to copyright

Fyi ... I thought I had cc'd you!

-----Original Message-----
From: Pace, John
To: FRVANBUREN@dow.com <FRVANBUREN@dow.com>
Sent: Mon Mar 23 17:49:07 2009
Subject: RE: Question related to copyright

Dear Mr. Van Buren:

I am responding on behalf of Kathe Hooper as she oversees all licensing and special permissions requests for ASTM International.

First, Kathe has correctly stated ASTM Organizational policy: ASTM does not allow the posting of any of our copyrighted standards or other intellectual properties on the open Internet for possible free access or download.

Second, the Disclaimer and Copyright notice of the European Patent Office does not provide sufficient protection nor use restraint if we allowed such such a request. There is no definition or limit as to who may access or download the copyrighted information from the EPO website, and there is no "click thru" license agreement addressing who would assume liability on further downstream use and control of the ASTM intellectual property.

If DOW wishes to assume responsibility to include lost revenues incurred by ASTM from such free posting, we can arrange with DOW and the EPO to have posted on this site a cover page of the standard with the abstract and metadata, and a link whereby any individual who needs a copy may obtain the pdf version via a click thru agreement, and the resulting pdf standard version download will come directly from the ASTM server. For such downloads, ASTM would keep record and charge DOW on all copies downloaded on a monthly basis until the arrangement was officially terminated.

If you wish to pursue this arrangement, we will be more than willing to cooperate and work with you.

Best Regards-
John Pace

John Pace
Vice President, Publications and Marketing
ASTM International
610-832-9632
jpace@astm.org

From: Van Buren, Frederik (FR) [mailto:FRVANBUREN@dow.com]
Sent: Wednesday, March 18, 2009 12:37 PM
To: Hooper, Kathe
Subject: RE: Question related to copyright

Dear Mrs. Hooper,

Your refusal is regrettably difficult to accept for us. Therefore I will provide you with some additional explanation on the factual situation.

We as an opponent in an European patent opposition are obliged to provide the documents mentioned in our notice of opposition as a hardcopy. Otherwise the opposition board of the European Patent Office will not consider the document. So this is one of the responsibilities of Dow in an European Patent Opposition.

As mentioned before the documents are placed by the European Patent Office on a public website (European patent oppositions are essentially of public nature). However, the following is explicitly mentioned at this section of the EPO website (section in red by me):

Disclaimer and copyright

The Online File Inspection service gives users access to the information contained in the European Patent Office (EPO) databases connected to the service. The EPO cannot assume liability for the correctness, completeness or quality of the information thus accessed, nor can it guarantee that it is up to date. Documents viewed via this service, particularly non-patent literature items, may be subject to copyright. Before copying or using such documents in other electronic or printed publications, it is up to users of the Online Public File Inspection service to check whether the permission of the author, publisher or other right holder is required. Where no third-party rights exist or are affected, the EPO gives permission for the information retrieved to be reproduced together with an indication of the source, provided that the content is correctly reproduced.

So the EPO has explicitly included this copyright notice.

The step of submitting supporting information by the opponent at the EPO is uncoupled from the responsibilities of the EPO and visitors of this section of the EPO website. The copyright aspects of downloading information from the website of the EPO have been addressed by the EPO.

I hope this additional information will allow you to provide me with information how to obtain your permission for supplying the EPO with the necessary copy of the ASTM standard. Please do not hesitate to contact me if you would like to have additional information.

Kind regards,

Frits van Buren

Dr. F.R. van Buren
Intellectual Capital Management
PTC-1 / 439 building - office 103
Dow Benelux B.V.
P.O. Box 48
4530 AA Terneuzen
The Netherlands
T + 31 115 672372 - F + 31 115 673315
frvanburen@dow.com
Handelsregisternr. 24104547

From: Hooper, Kathe [mailto:khooper@astm.org]
Sent: Monday, March 16, 2009 8:14 PM
To: Van Buren, Frederik (FR)
Subject: RE: Question related to copyright

Dear Mr. van Buren:

This is in response to your email of 12 March (copy below).

We are unable to grant permission as ASTM policy does not permit the posting of ASTM standards on public websites.

Kindest regards,

Kathe Hooper (Mrs.)
ASTM International
100 Barr Harbor Drive, PO Box C700
West Conshohocken, PA 19428-2959
phone: 610-832-9634
fax: 610-832-9635

email: khooper@astm.org

From: Van Buren, Frederik (FR) [mailto:FRVANBUREN@dow.com]
Sent: Thursday, March 12, 2009 10:43 AM
To: Custserv
Subject: Question related to copyright

Dear Mrs. or Mr.,

March 03, 2009 a colleague of me (J. Kirsting - Dow Chemical - USA) ordered standard ASTM 1238 - 85 from IHS.
On this standard it is mentioned:
Copyright ASTM International
Provided by IHS under license with ASTM
No reproduction or networking permitted without license from IHS.
and
Sold to: Dow Chemical, 01742693
Not for resale, 2009/3/3 20:57:9 GMT
For an European patent opposition we need to file a hardcopy of this standard at the European Patent Office (EPO) in Munich in Germany. The documents filed at an opposition are placed on a public section of the website of the EPO as pdf files. There they can be red and downloaded.

I would like to have your permission for filing a copy of this standard at the European Patent Office in Munich.

I first submitted this question at IHS, but they referred to you for further information.
Kind regards,
Frits van Buren
Dr. F.R. van Buren
Terneuzen Intellectual Capital Management
PTC-1 / 439 building - office 103
Dow Benelux B.V
P.O. Box 48
4530 AA Terneuzen
The Netherlands
T + 31 115 672372 - F + 31 115 673315
frvanburen@dow.com
Handelsregisternr. 2410454

EXHIBIT 131

From: Hooper, Kathe </O=ASTM/OU=FIRST ADMINISTRATIVE GROUP/CN=RECIPIENTS/CN=KHOOPER>
Sent: Thursday, July 9, 2009 3:33 PM
To: 'Victor Palacios' <vic_3@hotmail.com>
Subject: RE: Request (nao)

Dear Mr. Palacios:

Thank you for all your email and the information provided.

After further review of your request, ASTM is unable to grant permission to reproduce ASTM standards B584 and B208 in your thesis. You may reference the standards (by designation number and title) and refer readers to the ASTM website (www.astm.org) where they may purchase the standards.

Thank you for your interest in ASTM standards.

Kind regards,

Kathe Hooper
ASTM International
100 Barr Harbor Drive, PO Box C700
West Conshohocken, PA 19428-2959
phone: 610-832-9634
fax: 610-832-9635
email: khooper@astm.org

From: Victor Palacios [mailto:vic_3@hotmail.com]
Sent: Wednesday, July 08, 2009 5:38 PM
To: Hooper, Kathe
Subject: RE: Request (nao)

Dear Mrs. Kathe Hooper:

My mailing address is:

"Talleres Unidos Cevallos"
Eloy Alfaro 1702 y Argentina
Guayaquil, Ecuador
Postal Code: EC090101

Please be so kind to let me know the fees I need to cancel and all the information about the money transfer.
Thank you very much for all your help.
Kind regards,

Victor Palacios

De: Hooper, Kathe [mailto:khooper@astm.org]
Enviado el: miércoles, 08 de julio de 2009 15:28
Para: Victor Palacios
Asunto: RE: Request (nao)

Dear Victor,

Please send your complete mailing address for the license agreement.

Also, please note that the license will give permission to make up to 5 copies (only) of the ASTM standards. No further reproduction of the ASTM standards (in full or in part) is permitted at University libraries or other places.

Kind regards,

Kathe Hooper
ASTM International
100 Barr Harbor Drive, PO Box C700
West Conshohocken, PA 19428-2959
phone: 610-832-9634
fax: 610-832-9635
email: khooper@astm.org

From: Victor Palacios [mailto:vic_3@hotmail.com]
Sent: Monday, July 06, 2009 4:54 PM
To: Hooper, Kathe
Subject: RE: Request (nao)

Dear Mrs. Kathe Hooper:

The digital copies will be delivered in CD-ROM.

Thanks for your help.

Victor Palacios

De: Hooper, Kathe [mailto:khooper@astm.org]
Enviado el: lunes, 06 de julio de 2009 14:52
Para: Victor Palacios
Asunto: RE: Request (nao)

Dear Mr. Palacios,

Thank you for your response. I have an additional question regarding the digital copies (PDF). How will you deliver the PDF files (i.e. CD-ROM, DVD?)

Thank you.

Kind regards, Kathe

Kathe Hooper
ASTM International
100 Barr Harbor Drive, PO Box C700
West Conshohocken, PA 19428-2959
phone: 610-832-9634
fax: 610-832-9635
email: khooper@astm.org

From: Victor Palacios [mailto:vic_3@hotmail.com]
Sent: Monday, July 06, 2009 2:27 PM
To: Hooper, Kathe
Subject: RE: Request (nao)

Dear Mrs. Kathe Hooper:

I need to make 1 original document (printed), 3 printed copies and two digital copies (in pdf format as part of the thesis so it can't be reproduced), that's 4 printed copies and two digital copies. These documents will be distributed as follows:
1 copy stays with the thesis director,
1 copy and 1 original digital copy for the Mechanical Engineering library
1 original, 1 copy and 1 original digital copy for the Central Campus Library

I hope this information is the one you need, thanks in advance for all your help,

Victor Palacios

De: Hooper, Kathe [mailto:khooper@astm.org]
Enviado el: lunes, 06 de julio de 2009 10:24
Para: vic_3@hotmail.com
Asunto: RE: Request (nao)

Dear Mr. Palacios:

This is in regard to your email of 1 July (copy below).

Before we can proceed with your request to include ASTM standards B584 and B208 in your thesis, we will need to know how many printed copies of your thesis will be made and distributed. Once we receive this information, we will be happy to send a license agreement outlining the fees and conditions involved.

Please note that ASTM policy requires a fee for the rights to reproduce and distribute printed copies of ASTM standards. Also, ASTM does not permit the posting of ASTM standards on public websites or the distribution of the PDF files.

Thank you for your interest in ASTM standards.

Kind regards,

Kathe Hooper (Mrs.)
ASTM International
100 Barr Harbor Drive, PO Box C700
West Conshohocken, PA 19428-2959
phone: 610-832-9634
fax: 610-832-9635
email: khooper@astm.org

From: Naouri, Sarah
Sent: Thursday, July 02, 2009 9:21 AM
To: Hooper, Kathe
Cc: srvcout
Subject: FW: Request (nao)

Hi Kathe,

Sorry for all the emails today! Would the below permission request be something you handle? Please advise. Thank you.

Best Regards,

Sarah Naouri
ASTM International
Customer Relations Representative

From: Custserv
Sent: Thursday, July 02, 2009 8:45 AM
To: Naouri, Sarah
Subject: FW: Request

From: Victor Palacios [mailto:vic_3@hotmail.com]
Sent: Wednesday, July 01, 2009 3:46 PM
To: Custserv
Subject: Request

Greetings,

My name is Victor Palacios, I'm from Ecuador and I bought two standards: B584 and B208 through a friend's credit card (Jose Eduardo Rossel) two years ago (approximately). I'm making a thesis for my degree in Mechanical Engineering. The thesis is about the fabrication of copper alloy casting C86500 according to the ASTM Standard B584 for marine applications. The reason I write this email is because I would like your authorization to use these standards as annex documents in the thesis. Obviously I can't publish them without your authorization.

As I said, my name is Victor Palacios Cevallos, the university I studied is Escuela Superior Politecnica del Litoral (ESPOL), my thesis director is Ignacio Wiesner Falconi (email: iwiesner@espol.edu.ec), Mech. Eng. The university's web page is www.espol.edu.ec, the faculty's web page is www.fimcp.espol.edu.ec.

If there is a formal procedure of doing this, please let me know.

Thanks in advance,

Victor Palacios

EXHIBIT 132

Register My Account

E-Mail address:

Select Password:

Confirm Password:

REGISTER MY ACCOUNT

Password Note: Please use only letters A(a)-Z(z) and numbers 0-9. Do not use any punctuation marks, formatting, spacing, or non-letters (periods, commas, etc.). Your password must be at least 6 characters long.

EXHIBIT 133

Your Address

* First Name

Middle Name

* Last Name

Please enter your customer contact information in the fields below.

* Organization / Company

Check here if you do not have a company affiliation

* Street Address

ASTM cannot ship to a PO Box. Click here for details

City

* Country Pleas..

State Selec..

* Postal Code

* Phone

Please do not include country code, extensions, or "1"

* Email mstoltz777@yahoo.com

Required for Order Confirmation and Support

Yes, I would like to receive ASTM emails related to my industry.

CONTINUE

EXHIBIT 134

Reading Room

This is a service where you can view and read ASTM safety standards incorporated in United States regulations.

The standards are presented for online reading. There are no print or download options. To acquire the current version of the standards with print and download options, follow the hyperlink to the current version.

CAUTION: The ASTM standards available on this site are the versions and year-dates actually referenced in the respective federal regulation or law. The ASTM standard referenced MAY NOT BE THE MOST RECENT OR UP-TO-DATE version available. It is possible that the standard and/or technology at issue has changed or been updated during the period of time since the regulation/law was enacted. As a non-governmental organization, ASTM does not control which ASTM standards (and versions thereto) are referenced in federal regulations or laws.

Send comments or questions to service@astm.org

OPEN READING ROOM

EXHIBIT 135

OF THE ASTM STANDARDS CURRENTLY AVAILABLE. IT IS THE VISITOR'S RESPONSIBILITY TO DETERMINE IF THE DOCUMENT MEETS THEIR REQUIREMENTS OR PURPOSES.

ASTM SHALL NOT BE LIABLE FOR ANY DIRECT, SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF, ACCESS TO, OR INABILITY TO USE THESE MATERIALS. UNDER NO CIRCUMSTANCES WILL THE TOTAL LIABILITY OF ASTM TO YOU BASED ON ANY CAUSE OF ACTION EXCEED $100.

Miscellaneous: As a condition of your use of this site, you agree not to use the site for any purpose that is unlawful or prohibited by this agreement.

Use of the site by you is unauthorized in any jurisdiction that does not give effect to all provisions contained in this agreement.

If any part of these terms and conditions is held to be invalid or unenforceable for any reason including, but not limited to, the warranty disclaimers and liability limitations specified above, then the invalid or unenforceable provision will be deemed superseded by a valid enforceable provision that most closely matches the intent of the original provision and the remainder of the agreement will remain in full force and effect.

A printed version of this agreement shall be admissible in judicial or administrative proceedings based upon or relating to this agreement to the same extent and subject to the same conditions as other business documents and records originally generated and maintained in printed form.

These terms and conditions constitute the entire agreement between you and ASTM with respect to your use of the site. You acknowledge that, in providing you access to and use of the site, ASTM has relied on your agreement to be legally bound by these terms and conditions.

This agreement shall be construed and interpreted pursuant to the laws of the Commonwealth of Pennsylvania applicable to agreements wholly entered into and performed in Pennsylvania, excluding that body of law dealing with conflict of laws. Any legal action, suit, or proceeding arising out of or relating to this agreement or the breach thereof shall be instituted in a court of competent jurisdiction in Pennsylvania, and each party hereby consents and submits to the personal jurisdiction of such court, waives any objection to venue in such court and consents to the service of process by registered or certified mail, return receipt requested, at the last known address of such party.

You may not assign or transfer your rights or obligations under this agreement.

EXHIBIT 136

ASTM License Agreement

The purpose of this site is to provide the public with access to ASTM International standards ("ASTM Documents") which have been referenced or incorporated into federal regulation or laws. Please use this site to review these standards. The ASTM Documents are provided as a public service, and you represent that you will not make any commercial use of the ASTM Documents available here. These ASTM Documents are available for review only, and hardcopies and printable versions will continue to be available for purchase. By clicking on any ASTM Document, you agree to be bound by the terms of this agreement both as to this and each subsequent use you make of the ASTM Document, and you are responsible for ensuring that the terms of this agreement are met.

IMPORTANT- READ THESE TERMS CAREFULLY BEFORE ACCESSING ANY ASTM DOCUMENT.
By accessing any ASTM Document you are entering into a contract, and acknowledge that you have read this License Agreement, that you understand it and agree to be bound by its terms. If you do not agree to the terms of this License Agreement, promptly exit this site.

License:
ASTM grants you, the ASTM visitor, a nonexclusive and nontransferable license to view online the content of the ASTM Document(s). The ASTM Document is designed to be viewed online only - there are no "print," "save," or "cut and paste" options - and the license granted to you by this agreement does not include the right to download, reproduce, store in a retrieval system, modify, make available on a network, use to create derivative works, or transmit the content of the ASTM Document in any

YES, I AGREE WITH THE LICENSE NO, I DISAGREE WITH THE LICENSE.

EXHIBIT 137

(C) YOUR USE OF ANY EQUIPMENT OR SOFTWARE IN CONNECTION WITH USING THE ONLINE DOCUMENT; AND (D) YOUR USE OF THE CONTENT AND INFORMATION OR OPINIONS CONTAINED IN THE ONLINE DOCUMENT. OTHER IMPORTANT NOTICES AND DISCLAIMERS OF LIABILITY ARE CONTAINED IN THE INTRODUCTORY MATERIALS INCLUDED AT THE BEGINNING OF ALL PRINT AND ELECTRONIC VERSIONS OF NFPA CODES, STANDARDS, GUIDES, AND RECOMMENDED PRACTICES, INCLUDING THE ONLINE DOCUMENT, AND ARE INCORPORATED HEREIN BY REFERENCE. SOME STATES RESTRICT WARRANTY AND REMEDY EXCLUSIONS AND LIMITATIONS, AND, TO THE EXTENT OF SUCH RESTRICTIONS, THE FOREGOING LIMITATIONS MAY NOT APPLY TO YOU. IN SUCH STATES, NFPA'S LIABILITY SHALL BE LIMITED TO THE GREATEST EXTENT PERMITTED BY LAW.

MISCELLANEOUS. **The terms of this agreement may be changed from time to time. NFPA may suspend or discontinue providing the Online Document to you with or without cause and without notice**. NFPA may pursue any remedy legally available to it if you fail to comply with any of your obligations hereunder. The failure of NFPA to enforce any provision hereof shall not constitute or be construed as a waiver of such provision or of the right to enforce it at a later time.

You may not assign or transfer your rights or obligations under this agreement.

This agreement shall be construed and interpreted pursuant to the laws of the State of Massachusetts applicable to agreements wholly entered into and performed in the State of Massachusetts, excluding that body of law dealing with conflict of laws. Any legal action, suit, or proceeding arising out of or relating to this agreement or the breach thereof shall be instituted in a court of competent jurisdiction in the State of Massachusetts, Norfolk County, and each party hereby consents and submits to the personal jurisdiction of such court, waives any objection to venue in such court and consents to the service of process by registered or certified mail, return receipt requested, at the last known address of such party.

The terms of this agreement constitute the entire agreement between the parties with respect to the subject matter hereof. If any provision hereof is adjudged to be invalid, void, or unenforceable, the parties agree that the remaining provisions hereof will not be affected thereby, that the provision in question may be replaced by the lawful provision that most nearly embodies the original intention of the parties, and that the terms of this agreement will in any event remain valid and enforceable.

EXHIBIT 138

NATIONAL FIRE PROTECTION ASSOCIATION
The leading information and knowledge resource on fire, electrical and related hazards

Sign In Cart (0)

Search Search this site >

Sign-In | Join / Renew | My Profile | Catalog | News & Publications | About NFPA | Careers | Press Room

CODES & STANDARDS | SAFETY INFORMATION | TRAINING | RESEARCH

MEMBER ACCESS

Home > Login

SIGN IN

Sign in

*E-mail Address or Member ID:

*Password:

Remember me

Sign in

Forgot your password?

Need help signing in?

Not registered with NFPA? Create a Profile.

Customer Support: Help

Codes and Standards: Complete list Purchase Free Access National Fire Code Subscription Service (NFCSS)

On the Web: Blogs Buyers' Guide Electric Vehicle Safety Training Fire Adapted Communities Fire Prevention Week Fire Sprinkler Initiative Firewise NEC® Buyers' Guide nec connect Sparky the Fire Dog®

Home | Terms of use | Privacy policy |

EXHIBIT 139

series with the fluid flow, such as expansion tanks, fill lines, chemical feeders, and drains.

plenum: a compartment or chamber to which one or more ducts are connected, that forms a part of the air distribution system, and that is not used for occupancy or storage. A plenum often is formed in part or in total by portions of the building.

pool: any structure, basin, or tank containing an artificial body of water for swimming, diving, or recreational bathing. The term includes, but is not limited to, swimming pool, whirlpool, spa, and hot tub.

power roof/wall ventilators (PRV): a fan consisting of a centrifugal or axial impeller with an integral driver in a weather-resistant housing and with a base designed to fit, usually by means of a curb, over a wall or roof opening.

power usage effectiveness (PUE): computer room energy divided by IT equipment energy calculated in accordance with industry-accepted standards (see Informative Appendix E).

> ***power usage effectiveness—category 0 (PUE_0):*** peak electric demand (kW) for the entire computer room, including IT equipment and supporting infrastructure, divided by peak electric demand (kW) of the IT equipment.
>
> ***power usage effectiveness—category 1 (PUE_1):*** annual energy consumption (kWh) for the entire computer room, including IT equipment and supporting infrastructure, divided by annual energy consumption (kWh) of the IT equipment.

purchased energy rates: costs for units of energy or power purchased at the building site. These costs may include energy costs as well as costs for power demand as determined by the adopting authority.

R-value: see *thermal resistance*.

radiant heating system: a heating system that transfers heat to objects and surfaces within the heated space primarily (greater than 50%) by infrared radiation.

rated motor power: see *motor power, rated*.

rated R-value of insulation: the thermal resistance of the insulation alone as specified by the manufacturer in units of $h\text{-}ft^2\text{-}°F/Btu$ at a mean temperature of 75°F. Rated R-value refers to the thermal resistance of the added insulation in framing cavities or insulated sheathing only and does not include the thermal resistance of other building materials or air films. (See *thermal resistance*.)

rating authority: the organization or agency that adopts or sanctions use of this rating methodology.

readily accessible: capable of being reached quickly for operation, renewal, or inspection without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc. In public facilities, accessibility may be limited to certified personnel through locking covers or by placing equipment in locked rooms.

recirculating system: a domestic or service hot-water distribution system that includes a closed circulation circuit designed to maintain usage temperatures in hot-water pipes

EXHIBIT 140
(FILED UNDER SEAL)