

## ORAL ARGUMENT NOT YET SCHEDULED

No. 22-7063

UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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AMERICAN SOCIETY FOR TESTING AND MATERIALS, et al.,  
Appellants

v.

PUBLIC.RESOURCE.ORG, INC.,  
Appellee

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Appeal from the United States District Court  
for the District of Columbia  
Hon. Tanya S. Chutkan, No. 1:13-cv-1215-TSC

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**PUBLIC APPENDIX**  
**VOLUME 5 (JA2058-JA2437)**  
**MATERIAL UNDER SEAL IN SEPARATE SUPPLEMENT**

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**TABLE OF CONTENTS****VOLUME 1 (JA1-JA493)**

Docket Sheet, American Society for Testing and Materials, et al v. Public.Resource.Org, Inc., No. 13-cv-1215 .....	JA1
Exhibit A to Complaint, DKT. 1-1 .....	JA35
Transcript of 11/04/15 Status Hearing before Judge Tanya S. Chutkan, DKT. 116.....	JA45
Proposed Order Granting Plaintiffs’ Motion for Leave to File Under Seal, DKT. 117-1 .....	JA66
Exhibit 1 to Declaration of Jordana S. Rubel in Support of Plaintiffs’ Motion for Summary Judgment, DKT. 117-2 (Material Under Seal).....	JA68
Plaintiffs’ Memorandum of Law in Support of Motion for Summary Judgment and Permanent Injunction, DKT. 118-1 .....	JA182
Plaintiffs’ Statement of Material Facts in Support of Motion for Summary Judgment, DKT. 118-2.....	JA256
Declaration of Dennis J. Berry and Exhibits in Support of Plaintiffs’ Motion for Summary Judgment, DKT. 118-3 .....	JA306
Declaration of Steven Cramer and Exhibits in Support of Plaintiffs’ Motion for Summary Judgment, DKT. 118-4 .....	JA336
Declaration of James Golinveaux in Support of Plaintiffs’ Motion for Summary Judgment, DKT. 118-5 .....	JA348
Declaration of Randy Jennings and Exhibit in Support of Plaintiffs’ Motion for Summary Judgment, DKT. 118-6 .....	JA352
Declaration of Thomas B. O’Brien, Jr. and Exhibits in Support of Plaintiffs’ Motion for Summary Judgment, DKT. 118-7 .....	JA362

**VOLUME 2 (JA494-JA1297)**

Declaration of Thomas B. O'Brien, Jr. and Exhibits in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-7 (continued).....	JA494
Declaration of James T. Pauley and Exhibits in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-8 .....	JA629
Declaration of Kevin Reinertson in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-9 .....	JA663
Declaration of Stephanie Reiniche and Exhibits in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-10 .....	JA668
Declaration of James Thomas in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-11 .....	JA697
Exhibit 1 to Declaration of Jordana S. Rubel in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-12 (Jarosz Report) (Material Under Seal).....	JA704
Exhibit 2 to Declaration of Jordana S. Rubel in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-12 .....	JA818
Exhibit 3 to Declaration of Jordana S. Rubel in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-12 (Material Under Seal).....	JA896
Exhibit 8 to Declaration of Jordana S. Rubel in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-12 .....	JA999
Exhibit 10 to Declaration of Jordana S. Rubel in Support of Plaintiffs' Motion for Summary Judgment, DKT. 118-12 .....	JA1005
Defendant Public.Resource.Org's Statement of Material Facts in Support of Motion for Summary Judgment, DKT. 120-3 (Material Under Seal) (Public Version at DKT. 121-2) .....	JA1014
Declaration of Matthew Becker in Support of Public.Resource.Org's Motion for Summary Judgment, DKT. 120-4 (Material Under Seal).....	JA1050



Exhibit 4 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-6 (Material Under Seal).....	JA1072
Exhibit 22 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-9 (Material Under Seal).....	JA1092
Exhibit 53 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-10 (Material Under Seal).....	JA1100
Exhibit 74 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-11 (Material Under Seal).....	JA1119
Exhibit 80 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-14 (Material Under Seal).....	JA1122
Exhibit 87 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-20 (Material Under Seal).....	JA1125
Exhibit 88 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-21 (Material Under Seal).....	JA1136
Exhibit 89 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-22 (Material Under Seal).....	JA1149
Exhibit 90 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-23 (Material Under Seal).....	JA1204
Exhibit 91 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-24 (Material Under Seal).....	JA1206

Exhibit 92 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-25 (Material Under Seal)..... JA1208

Exhibit 93 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-26 (Material Under Seal)..... JA1231

Exhibit 94 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-27 (Material Under Seal)..... JA1238

Exhibit 129 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-29 (Material Under Seal)..... JA1245

Exhibit 146 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-33 (Material Under Seal)..... JA1254

Exhibit 150 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 120-34 (Material Under Seal)..... JA1257

Declaration of Carl Malamud in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 121-5 ..... JA1260

Exhibits 1-10 to Public.Resource.Org’s Motion for Summary Judgment, DKT. 122-1..... JA1271

**VOLUME 3 (JA1298-JA1677)**

Exhibits 1-10 to Public.Resource.Org’s Motion for Summary Judgment, DKT. 122-1 (continued)..... JA1298

Exhibits 11-20 to Public.Resource.Org’s Motion for Summary Judgment, DKT. 122-2..... JA1569

**VOLUME 4 (JA1678-JA2057)**

Exhibits 11-20 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-2 (continued)..... JA1678

Exhibits 21-40 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-3..... JA1938

**VOLUME 5 (JA2058-JA2437)**

Exhibits 21-40 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-3 (continued)..... JA2058

Exhibits 41-60 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-4..... JA2107

Exhibits 61-80 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-5..... JA2204

Exhibits 61-80 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-5..... JA2258

Exhibits 81-100 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-6..... JA2296

**VOLUME 6 (JA2438-JA2817)**

Exhibits 81-100 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-6 (continued)..... JA2438

Exhibits 101-120 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-7..... JA2527

Exhibits 121-140 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-8..... JA2644

**VOLUME 7 (JA2818-JA4847)**

Exhibits 141-157 to Public.Resource.Org’s Motion for Summary  
Judgment, DKT. 122-9..... JA2818

Exhibit 3 to Declaration of Kathleen Lu in Support of Public.Resource.Org’s Motion to Strike, DKT. 124-5 .....	JA2952
Declaration of Steve Comstock in Support of Plaintiffs’ Reply to Opposition to Motion for Summary Judgment, DKT. 155-5 .....	JA2955
Declaration of Christian Dubay in Support of Plaintiffs’ Reply to Opposition to Motion for Summary Judgment, DKT. 155-6 .....	JA2960
Exhibit A to Declaration of Christian Dubay in Support of Plaintiffs’ Reply to Opposition to Motion for Summary Judgment, DKT. 155-6, exhibit A (Material Under Seal) .....	JA2965
Supplemental Declaration of Thomas B. O’Brien, Jr. in Support of Plaintiffs’ Reply to Opposition to Motion for Summary Judgment, DKT. 155-7 .....	JA3849
Exhibit 10 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 163-6 (Material Under Seal).....	JA3925
Exhibit 11 to Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 163-7 (Material Under Seal).....	JA3928
Declaration of Matthew Becker in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 164-1 .....	JA3930
Public.Resource.Org’s Supplemental Statement of Undisputed Material Facts in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 164-3 .....	JA3934
Supplemental Declaration of Carl Malamud in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 164-8 .....	JA3941
Exhibit 5 to Supplemental Declaration of Carl Malamud in Support of Public.Resource.Org’s Motion for Summary Judgment, DKT. 164-13 .....	JA3943

Exhibit 6 to Supplemental Declaration of Carl Malamud in Support  
of Public.Resource.Org’s Motion for Summary Judgment,  
DKT. 164-14 ..... JA3988

Memorandum Opinion, DKT. 175..... JA4003

Exhibit 156 to Declaration of Jane W. Wise in Support of Plaintiffs’  
Second Motion for Summary Judgment, DKT. 198-40 ..... JA4822

### **VOLUME 8 (JA4848-JA7295)**

Exhibit 156 to Declaration of Jane W. Wise in Support of Plaintiffs’  
Second Motion for Summary Judgment, DKT. 198-40 (continued)..... JA4848

Exhibit 167 to Declaration of Jane W. Wise in Support of Plaintiffs’  
Second Motion for Summary Judgment, DKT. 198-48 ..... JA4927

Exhibit 173 to Declaration of Jane W. Wise in Support of Plaintiffs’  
Second Motion for Summary Judgment, DKT. 198-48 ..... JA4934

Declaration of James S. Thomas and Exhibits in Support of Plaintiffs’  
Second Motion for Summary Judgment, DKT. 198-49 ..... JA4940

Supplemental Declaration of James T. Pauley in Support of Plaintiffs’  
Second Motion for Summary Judgment, DKT. 198-50 ..... JA4985

Plaintiffs’ Memorandum in Support of Second Motion for Summary  
Judgment and for Permanent Injunction, DKT. 199-1  
(Material Under Seal) (Public Version at DKT. 200)..... JA5001

Plaintiffs’ Second Supplemental Statement of Material Facts in  
Support of Second Motion for Summary Judgment, DKT. 199-2  
(Material Under Seal) (Public Version at DKT. 201)..... JA5059

Exhibit D to the Supplemental Declaration of James T. Pauley  
in Support of Second Motion for Summary Judgment,  
DKT. 199-15 (Material Under Seal) ..... JA5121

Exhibit F to the Supplemental Declaration of James T, Pauley in Support of Second Motion for Summary Judgment, DKT. 199-17 (Material Under Seal) .....	JA5223
Exhibit P to the Supplemental Declaration of James T. Pauley in Support of Second Motion for Summary Judgment, DKT. 199-27 (Material Under Seal) .....	JA5571
Exhibit T to the Supplemental Declaration of James T. Pauley in Support of Second Motion for Summary Judgment, DKT. 199-31 (Material Under Seal) .....	JA6501
Exhibit V to the Supplemental Declaration of James T. Pauley in Support of Second Motion for Summary Judgment, DKT. 199-33 (Material Under Seal) .....	JA6916
Supplemental Declaration of Stephanie Reiniche in Support of Second Motion for Summary Judgment, DKT. 198-53 .....	JA6944
Exhibit 1 to Supplemental Declaration of Stephanie Reiniche in Support of Second Motion for Summary Judgment, DKT. 199-34, exhibit 1 (Material Under Seal) .....	JA6948
Public Resource’s Second Motion for Summary Judgment, DKT. 202.....	JA7139
Public Resource’s Second Supplemental Statement of Material Facts in Opposition To Plaintiffs’ Motion for Summary Judgment and Permanent Injunction, and in Support of Public Resource’s Second Motion for Summary Judgment, DKT. 203-2 (Material Under Seal) .....	JA7142
Exhibit 77 to Public Resource’s Second Motion for Summary Judgment, DKT. 203-27 (Material Under Seal) .....	JA7197
Declaration of Carl Malamud in Support of Public Resource’s Second Motion for Summary Judgment, DKT. 204-4 .....	JA7199
Declaration of Matthew Becker in Support of Public Resource’s Second Motion for Summary Judgment, DKT. 204-5 .....	JA7216

Exhibit 34 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-40 ..... JA7226

Exhibit 36 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-42 ..... JA7228

### **VOLUME 9 (JA7296-JA7675)**

Exhibit 36 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-42 (continued)..... JA7296

Exhibit 37 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-43 ..... JA7317

Exhibit 38 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-44 ..... JA7439

Exhibit 40 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-46 ..... JA7541

Exhibit 41 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-47 ..... JA7655

### **VOLUME 10 (JA7676-JA8154)**

Exhibit 41 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-47 (continued)..... JA7676

Exhibit 42 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-48 (Material Under Seal) ..... JA7761

Exhibit 43 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-49 ..... JA7861

Exhibit 44 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-50 ..... JA7959

Exhibit 45 to Public Resource’s Second Motion for Summary  
Judgment, DKT. 204-51 ..... JA8045

**VOLUME 11 (JA8155-JA8817)**

Exhibit 45 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-51 (continued) .....	JA8155
Exhibit 46 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-52 (Material Under Seal) .....	JA8165
Exhibit 55 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-61 (Material Under Seal) .....	JA8269
Exhibit 56 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-62 (Material Under Seal) .....	JA8297
Exhibit 60 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-66 .....	JA8324
Exhibit 72 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-78 (Material Under Seal) .....	JA8327
Exhibit 73 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-79 (Material Under Seal) .....	JA8352
Exhibit 74 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-80 (Material Under Seal) .....	JA8378
Exhibit 75 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-81 (Material Under Seal) .....	JA8405
Exhibit 76 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-82 (Material Under Seal) .....	JA8435
Exhibit 77 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-83 (Material Under Seal) .....	JA8438
Exhibit 78 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-84 (Material Under Seal) .....	JA8440
Exhibit 79 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-85 (Material Under Seal) .....	JA8446



Exhibit 80 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-86 (Material Under Seal) .....	JA8448
Exhibit 84 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-90 .....	JA8450
Exhibit 85 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-91 .....	JA8456
Exhibit 86 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-92 .....	JA8471
Exhibit 87 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-93 .....	JA8489
Exhibit 88 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-94 .....	JA8491
Exhibit 89 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-95 .....	JA8534
Exhibit 90 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-96 .....	JA8538
Exhibit 91 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-97 .....	JA8654
Exhibit 96 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-102 .....	JA8667
Exhibit 97 to Public Resource’s Second Motion for Summary Judgment, DKT. 204-103 (Material Under Seal) .....	JA8729
Plaintiffs’ Statement of Disputed Facts and Objections in Opposition to Public Resource’s Second Supplemental Statement of Material Facts, DKT. 212-1 (Material Under Seal) (Public Version at DKT. 213-20).....	JA8733

**VOLUME 12 (JA8818-JA9197)**

Plaintiffs’ Statement of Disputed Facts and Objections in Opposition to Public Resource’s Second Supplemental Statement of Material Facts, DKT. 212-1 (Material Under Seal) (Public Version at DKT. 213-20) (continued).....	JA8818
Plaintiffs’ Third Supplemental Statement of Material Facts in Support of Second Motion for Summary Judgment, DKT. 213-1 .....	JA8858
Exhibit 176 to Declaration of Jane W. Wise in Support of Second Motion for Summary Judgment, DKT. 213-6 .....	JA8864
Supplemental Reply Declaration of Matthew Becker in Support of Public Resource’s Second Motion for Summary Judgment, DKT. 215-3.....	JA9005
Exhibit 98 to Supplemental Reply Declaration of Matthew Becker in Support of Public Resource’s Second Motion for Summary Judgment, DKT. 215-4 .....	JA9010

**VOLUME 13 (JA9198-JA9505)**

Exhibit 98 to Supplemental Reply Declaration of Matthew Becker in Support of Public Resource’s Second Motion for Summary Judgment, DKT. 215-4 (continued).....	JA9198
Exhibit 99 to Supplemental Reply Declaration of Matthew Becker in Support of Public Resource’s Second Motion for Summary Judgment, DKT. 215-5 .....	JA9249
Memorandum and Opinion re Plaintiffs’ Motion for Summary Judgment and Permanent Injunction, and Defendant’s Cross-Motion for Summary Judgment, DKT. 239.....	JA9265
Appendix to Memorandum and Opinion re Plaintiffs’ Motion for Summary Judgment and Permanent Injunction, and Defendant’s Cross-Motion for Summary Judgment, DKT. 239-1 .....	JA9312
Order granting in part and denying in part Plaintiffs’ Motion for Summary Judgment; granting in part and denying in part Plaintiffs’	

Motion for Permanent Injunction; granting in part and denying in part Defendant’s Cross-Motion for Summary Judgment, DKT. 240 ..... JA9499

Notice of Appeal ..... JA9502

ASTM INTERNATIONAL

## Sec 24 Impacts ASTM

- Sec 24 conflicts with goals of the NTTAA and OMB Circular A119 which have been effective in utilizing standards in support of regulations
- Threatens public-private collaboration that has worked for over 100 years
- Underestimates the costs and process of developing high quality standards



Standards Worldwide

July 13, 2012

# Reasonable Access

- o ASTM strives to provide reasonable access to standards incorporated by reference by PHMSA
- o The list price for these 12 standards range from \$40 to \$57 each which is a fair price for the technical knowledge  
Many of the producers, users and inspectors of pipeline materials and products access these standards at no cost as a benefit of their ASTM membership.  
Many others access the documents far-below the list prices through commercial agreements and site-license agreements
- o Our approach is to be flexible, reasonable and fair, and to work with stakeholders to find an access model that works

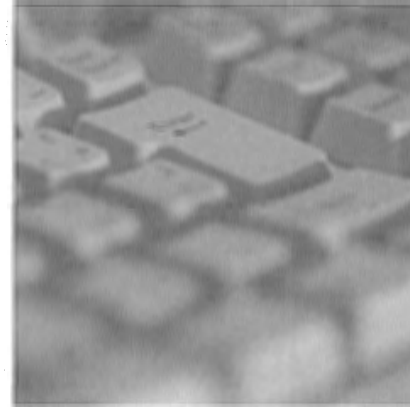
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# Costs of Standards Development

- Investment in technology
  - Electronic standards templates
  - Electronic balloting and editing
  - On-line collaborative platform
  - Virtual meeting technology
  - Web-based resources
- Supporting programs/products
  - ILS, PTP, Symposia/Workshops, Certification, Training, Videos
- ANSI Accreditation
- Maintain offices worldwide and a professional staff to support standards development and distribution



Standards Worldwide

July 13, 2012



# Development Models

- What model works best to pay for the production of standards?
- Under the ASTM model
  - Costs are spread amongst thousands of users
  - \$75 annual membership gives access to many who need it
  - No projects fees or front-loaded costs

July 13, 2012



ASTM INTERNATIONAL

# ASTM Model Works

- Produces high-quality standards
- Provides value to ASTM members, the public and the government
  - Particularly benefits SME's and individuals who engage on a volunteer basis without corporate funding
- Difficult for the government to replicate
  - Costly to government to duplicate efforts
  - Public/Private collaboration may be chilled
  - Quality and Efficiency could be at risk



July 13, 2012



# Summary/Pathway Forward

- We are sensitive to the challenges Sec 24 places on PHMSA.
- We already provide public access during rulemakings and make standards available on a reasonable basis.
- To implement Sec 24, one pathway is to collaborate on an agreement that provides public access without fundamentally changing the core of our existing model.

July 13, 2012



ASTM INTERNATIONAL

Thank you

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July 13, 2012

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 128 of 169

# EXHIBIT 27



FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT ASHRAE STANDARD, GUIDELINE OR ADDENDUM

PLEASE RETURN COMPLETED FORM BY JANUARY 10, 2005

1. Name:

Affiliation:

Address:

City:

State:

Zip:

Telephone:

Fax:

E-mail:

Designation and Title of First Public Review Draft: BSR/ASHRAE/IESNA Addendum a to ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: \_\_\_\_\_ Date \_\_\_\_\_

Check here if you are sending your signature (as required by this form) via fax or mail.

3. Clause or Subclause:

4. Comment:

(If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) Please do not submit marked-up or highlighted copies of the standard.)

5. Substantiating Statements:

(Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

[ ] Check if additional pages are attached. Number of additional pages:

[ ] Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

NOTE: Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: public.review.comment@ashrae.org. ftp server address: ftp.ashrae.org, directory: public.review.comment. Fax 678-539-2134.

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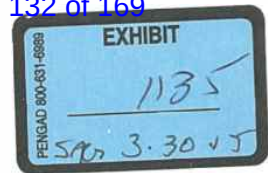
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ASHRAE0022822

JA02067

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 131 of 169

# **EXHIBIT 28**



CM SUBMITTAL FORM

NOTE: Use separate form for each comment. Submittals (MS Word 2000 preferred) may be attached to e-mail (preferred), submitted on diskettes or CD, or submitted in paper by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: *change.proposal@ashrae.org*. Fax +1-404/321-5478.

1. **Submitter:**

Affiliation:

Address: City: State: Zip:  
Country:

Telephone: Fax: E-Mail:

① I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this, or other analogous, form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: All electronic submittals must complete the following statement:

② (insert name), through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

2. **Number and year of standard:**

3. **Clause (section), sub-clause or paragraph number; and page number:**

4. **I propose to:**  Change to read as follows  Delete and substitute as follows  
*(check one)*  Add new text as follows  Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (~~deleted~~). Use additional pages if needed.

5. **Proposed change:**

6. **Reason and substantiation:**

7. **Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.**

Check if additional pages are attached. Number of additional pages:

Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. *Please list your attachments here:*

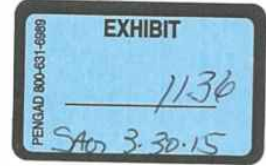
Revised 1-30-2006

ASHRAE0022819

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 133 of 169

# EXHIBIT 29





FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT  
ASHRAE STANDARD, GUIDELINE OR ADDENDUM

PLEASE RETURN COMPLETED FORM BY \_\_\_\_\_

1. Name:

Affiliation:

Address:

City:

State:

Zip:

Telephone:

Fax:

E-mail:

Designation and Title of First Public Review Draft:

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: \_\_\_\_\_ Date \_\_\_\_\_

All electronic submittals must complete the following statement:

I (*insert name*) \_\_\_\_\_, through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

3. Clause or Subclause:

4. Comment (Proposed Text):

(If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) (Please do not submit marked-up or highlighted copies of the standard.) (If it is a proposed withdrawal, please state here with specificity)

5. Substantiating Statements:

(Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

Check if additional pages are attached. Number of additional pages:

Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

**NOTE:** Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: [public.review.comment@ashrae.org](mailto:public.review.comment@ashrae.org). Ftp server address: <ftp.ashrae.org>, directory: <public.review.comment>. Fax 678-539-2134.

**NOTE:** To ensure receiving all notices provided for in the procedures, you are responsible for informing the ASHRAE Standards Section when your contact information changes. Otherwise you may not receive responses to comments, right-to-appeal notices, and any other notices that may be sent to commenters. To update your contact information, send an email to [standards.section@ashrae.org](mailto:standards.section@ashrae.org). You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 01-30-2006

ASHRAE0022824

JA02072

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 136 of 169

# **EXHIBIT 30**



FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT  
ASHRAE STANDARD, GUIDELINE OR ADDENDUM

PLEASE RETURN COMPLETED FORM BY April 30, 2007

1. Name:

Affiliation:

Address: City: State: Zip:

Telephone: Fax: E-mail:

Designation and Title of First Public Review Draft: BSR/ASHRAE/IESNA Addendum \_\_\_\_\_ to  
ANSI/ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential  
Buildings

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: \_\_\_\_\_ Date \_\_\_\_\_

All electronic submittals must complete the following statement:  
I (*insert name*) \_\_\_\_\_, through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

3. Clause or Subclause:

4. Comment (Proposed Text):  
(If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) (Please do not submit marked-up or highlighted copies of the standard.) (If it is a proposed withdrawal, please state here with specificity)

5. Substantiating Statements:  
(Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

[ ] Check if additional pages are attached. Number of additional pages:

Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

**NOTE:** Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: [public.review.comment@ashrae.org](mailto:public.review.comment@ashrae.org). Ftp server address: <ftp.ashrae.org>, directory: <public.review.comment>. Fax 678-539-2134.

**NOTE:** To ensure receiving all notices provided for in the procedures, you are responsible for informing the ASHRAE Standards Section when your contact information changes. Otherwise you may not receive responses to comments, right-to-appeal notices, and any other notices that may be sent to commenters. To update your contact information, send an email to [standards.section@ashrae.org](mailto:standards.section@ashrae.org). You must indicate which public review draft or drafts you are commenting on in your email.

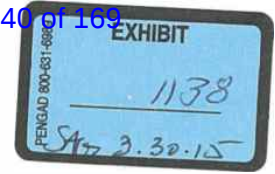
Rev. 01-30-2006

ASHRAE0022826

JA02075

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 139 of 169

# EXHIBIT 31



FORM FOR SUBMITTAL OF PROPOSED CHANGE TO AN ASHRAE STANDARD UNDER CONTINUOUS MAINTENANCE

NOTE: Use a separate form for each comment. Submittals (Microsoft Word preferred) may be attached to e-mail (preferred), submitted on a CD, or submitted in paper by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: change.proposal@ashrae.org. Fax: +1-404/321-5478.

1. Submitter:

Affiliation:

Address: City: State: Zip: Country:

Telephone: Fax: E-Mail:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: \_\_\_\_\_ Date: \_\_\_\_\_

All electronic submittals must have the following statement completed: I (insert name) through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

2. Number and year of standard:

3. Page number and clause (section), subclause, or paragraph number:

- 4. I propose to: [ ] Change to read as follows [ ] Delete and substitute as follows (check one) [ ] Add new text as follows [ ] Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (deleted). Use additional pages if needed.

5. Proposed change:

6. Reason and substantiation:

7. Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.

- [ ] Check if additional pages are attached. Number of additional pages: \_\_\_\_\_ [ ] Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. Please list your attachments here:

Rev. 3-9-2007

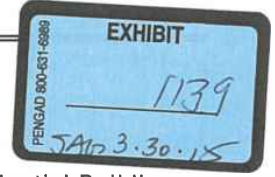
Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 141 of 169

# EXHIBIT 32





Part 1 of 2  
**APPLICATION FOR PROJECT COMMITTEE ORGANIZATIONAL REPRESENTATIVE MEMBERSHIP**



1. ASHRAE Project Committee (Please use a separate form for each committee)

- SSPC 34 Designation and Safety Classification of Refrigerants
- SSPC 62.1 Ventilation for Acceptable Indoor Air Quality
- SSPC 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
- SSPC 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings
- SSPC 90.2 Energy Efficient Design of Low-Rise Residential Buildings
- SSPC 161 Air Quality Within Commercial Aircraft

2. Name of Applicant

Print or Type Name (First, Middle Initial, Last)

Today's Date

ASHRAE Member ID	Primary or Alternate Representative?	Organization Represented
------------------	--------------------------------------	--------------------------

3. Biographical information on ASHRAE's website: (check one):

- Has been completed/updated and contains current information.
- Will be completed/updated on \_\_\_\_\_.

4. The Potential Sources of Bias/Conflict of Interest form, specifically applicable to the purpose and scope of this Project Committee, has been completed:  Yes  No  
 (Note: This form *must be completed* if applying for membership on a Project Committee.)

5. If elected as an Organizational Member of the Project Committee, I would qualify in the following Interest Category (check one): (See next page for description of interest categories)

SSPC 34	SSPC 62.1	SSPC 62.2	SSPC 90.1	SSPC 90.2	SSPC 161
<input type="checkbox"/> Consulting	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Compliance	<input type="checkbox"/> Compliance	<input type="checkbox"/> Flight Personnel
<input type="checkbox"/> Engineer/Contractor/Architect	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest	<input type="checkbox"/> Designer	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest
<input type="checkbox"/> General Interest	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> General Interest	<input type="checkbox"/> Industry	<input type="checkbox"/> Manufacturer
<input type="checkbox"/> Producer/Vendor	<input type="checkbox"/> Own/Oper/Occ	<input type="checkbox"/> Own/Oper/Occ	<input type="checkbox"/> Industry	<input type="checkbox"/> Producer	<input type="checkbox"/> Owner/Operator
<input type="checkbox"/> User			<input type="checkbox"/> User	<input type="checkbox"/> User	<input type="checkbox"/> Passenger
			<input type="checkbox"/> Utility	<input type="checkbox"/> Utility	

PLEASE DO NOT ADD INTEREST CATEGORIES

6. By signing below, I certify that:

If elected as an Organizational Member of any ASHRAE Standard or Guideline Project Committee or appointed as a consultant to such committee I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive, royalty-free rights, including nonexclusive, royalty rights in copyright, to any contributions I make to documents prepared by or for such committee for ASHRAE publication and I understand that I acquire no rights in publication of such documents in which my contributions or other similar analogous form are used. I hereby attest that I have the authority and I am empowered to grant this copyright release.

I am authorized to commit that my organization agrees to the following:

- a) an intent to participate in a constructive way to achieve the Title, Purpose, and Scope (TPS) of the standard
- b) to provide an individual with appropriate technical or scientific qualifications to serve as their representative, and if
- c) to encourage the constituency of the organization to provide input and comments to the organization's representative,
- d) to provide feedback to the constituency of the organization on the disposition of input and comments submitted by the organization's representative,
- e) to not expect any financial support from ASHRAE for expenses related to participation in the activities of the SPC/SSPC

SIGNATURE \_\_\_\_\_

(Note: This form is not valid unless signed by Applicant.)

Submit Completed Form to: (PCMembership@ashrae.net); Tel. (678) 539-1125; Fax (678) 539-2125

## BACKGROUND

ASHRAE Standards 34, 62.1, 62.2, 90.1, 90.2 and 161 impact a diverse group of individuals and industries. The constituency for these standards transcends the typical interest categories suggested by ANSI. These interest categories are intended to address the multidisciplinary nature of the standards, and to provide a better balance of interest categories for the SPC/SSPC.

## DEFINITIONS

**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 categories:** the principal (top) tier of interest classifications. For some standards projects, it may be appropriate to designate subcategories of one or more interest category.

## INTEREST CATEGORIES

**Compliance:** Persons primarily interested in compliance with the standard. A person in this category would make their living from developing regulations, enforcing the requirements of the standard, developing programs tied to the standard, or advocating the standard. Example members of this category would be building code officials, building code organizations, state energy offices, and other local, state, and federal officials.

**Designer:** A designer of buildings, building systems or subsystems (including envelope, HVAC, lighting). A person in this category would make their living from designing buildings and systems that are impacted by the standard. Example members of this category would be architects, design firms, consulting engineers, lighting designers and employees of energy consulting firms.

**Designers/Builders:** Those who provide building design and construction services, including consulting engineers, HVAC and general contractors, design/build contractors, or representatives of associations of these types of professionals.

**General:** Building regulatory officials or their representatives, researchers, educators, IAQ specialists, and others with expertise in the fields of ventilation and indoor air quality. Also, medical doctors, public health experts, industrial hygienists or representatives of associations of these types of professionals.

In addition, this category is intended for those who have interests other than those described in the other categories. Example members of this category would be employees of research institutions, universities, nationally recognized testing laboratories, employees of energy advocacy groups, and others with a general interest in energy utilization in buildings.

**Industry:** Construction firms or manufacturers, producers, or distributors of products or systems that would be installed in buildings. A person in this category would make their living from constructing buildings or producing or distributing products impacted by this standard or representing groups of manufacturers impacted by this standard. Example members of this category would be contractors, manufacturing firms, assembly firms, distributors and wholesalers, and industry trade associations that represent these groups.

**Manufacturers:** Employees or representatives of manufacturers, distributors or trade associations of HVAC equipment, HVAC controls, and equipment designed to enhance indoor air quality (e.g. air cleaners). Also, individuals associated with products used in the construction of buildings (e.g., finishes, wall and floor coverings, wood products) and used within buildings by occupants (e.g., furniture and furnishings, tobacco products, appliances, office equipment).

**Owners/Operators/Occupants:** Employees or representatives of building owners/managers, building engineers, facility managers, and consultants who specialize in working in existing buildings (as opposed to those who design and construct new buildings). Also representatives of building occupants.

**Producer:** those directly concerned with the production or distribution of the product or service involved, including industry associations representing producers or distributors, or those receiving substantial support from a producer directly concerned.

**User:** Users of buildings and building systems and subsystems. A person in this category would make their living from owning or operating buildings. Example members of this category would be building owners and operators (private and governmental), tenants, and trade associations or organizations representing these groups.

**Utility:** Those who provide energy services to buildings impacted by this standard. A person in this category would make their living from providing energy services to a building impacted by this standard. Example members of this category would be electric, gas, steam, or other utility and trade associations or organizations representing these groups.



PART 2 of 2

**PROJECT COMMITTEE ORGANIZATIONAL MEMBERSHIP CONTACT INFORMATION**

Committee No: \_\_\_\_\_

Committee Name \_\_\_\_\_

Organization		
Contact Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

Primary Representative Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

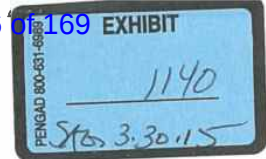
Alternate Representative Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

Please describe your organization's interest in this Project Committee:

Please submit this form with copies of the "Application for Project Committee Organizational Representative Membership" forms for each applicant listed above.  
 Submit completed forms to [PCMembership@ashrae.net](mailto:PCMembership@ashrae.net) or fax to 678 539-2125

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 145 of 169

# EXHIBIT 33



## ASHRAE Standard/Guideline Project Committee Application for Individual Membership

1. Name of Applicant Today's Date  
Print or Type Name (Last, First, Middle Initial) below

ASHRAE Member/Non Member ID (ASHRAE Membership is not a requirement unless applying for Chair or Vice-Chair position) \*Committee Position for Which You Are Applying: (see below)

\*VM-Project Committee Voting Member; SVM-Project Subcommittee Voting Member; NVM-Non-Voting Member; CON-Consultant, or Primary/Alternate Organizational Rep

2. I am applying for Individual Membership on the following ASHRAE Project Committee: (Please use a separate form for each committee.)

- SSPC 34 Designation and Safety Classification of Refrigerants
- SSPC 62.1 Ventilation for Acceptable Indoor Air Quality
- SSPC 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
- SSPC 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings
- SSPC 90.2 Energy Efficient Design of Low-Rise Residential Buildings
- SSPC 161 Air Quality Within Commercial Aircraft
- SPC 189.1 Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings

If you are applying for a committee other than those listed above, please enter committee information below and use the Default Interest Categories listed in Section 4:

\_\_\_\_\_

3. Bio Report (in the "Member Central" section of the ASHRAE website) and the Potential Sources of Bias/Conflict of Interest form:

- Bio information current within a year from today. Date Bio information on ASHRAE's website was completed/updated: \_\_\_\_\_
- I have completed and signed the Potential Sources of Bias/Conflict of Interest form. Date form was completed/updated: \_\_\_\_\_

4. If elected as a member of the Project Committee, I would qualify in the following Interest Category (check one):  
(Descriptions of Interest Categories are on Page 2)

DEFAULT	SSPC 34	SSPC 62.1	SSPC 62.2	SSPC 90.1	SSPC 90.2	SSPC 161
<input type="checkbox"/> General Interest	<input type="checkbox"/> Consulting Engineer/ Contractor/Architect	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Compliance	<input type="checkbox"/> Compliance	<input type="checkbox"/> Flight Personnel
<input type="checkbox"/> Producer	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest	<input type="checkbox"/> Designer	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest
<input type="checkbox"/> User	<input type="checkbox"/> Producer/Vendor	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> General Interest	<input type="checkbox"/> Industry	<input type="checkbox"/> Manufacturer
<input type="checkbox"/> Supplier (category may not be available-check with PC Chair)	<input type="checkbox"/> User	<input type="checkbox"/> Owner/Operator/ Occupant	<input type="checkbox"/> Owner/Operator/ Occupant	<input type="checkbox"/> Industry	<input type="checkbox"/> Producer	<input type="checkbox"/> Owner/Operator
			<input type="checkbox"/> User	<input type="checkbox"/> User	<input type="checkbox"/> Utility	<input type="checkbox"/> Passenger
				<input type="checkbox"/> Utility		

SPC 189.1

- Compliance
- Designer
- General Interest
- Industry
- User
- Utility

**-PLEASE DO NOT ADD INTEREST CATEGORIES-**

5. By signing below, I certify that:

*If elected as a member of any ASHRAE Standard or Guideline Project Committee or appointed as a consultant to such committee, I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive, royalty-free rights, including nonexclusive, royalty rights in copyright, to any contributions I make to documents prepared by or for such committee for ASHRAE publication and I understand that I acquire no rights in publication of such documents in which my contributions or other similar analogous form are used. I hereby attest that I have the authority and I am empowered to grant this copyright release.*

**SIGNATURE** \_\_\_\_\_

Note: This form is not valid unless signed by Applicant  
 Submit Completed Form to: [Standards.Section@ashrae.org](mailto:Standards.Section@ashrae.org); Tel. (678) 539-1143; Fax (678) 539-2143

Last Revision: 10/09 - Page 1

Note: If applying for Organizational membership, please complete the Application for Project Committee Organizational Representative Membership with your information, and the Application for PC Organizational Membership with information on the organization you will represent.

**ASHRAE0022817**

## DEFINITIONS

**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 categories:** the principal (top) tier of interest classifications. For some standards projects, it may be appropriate to designate subcategories of one or more interest category.

## INTEREST CATEGORIES

**Compliance:** Persons primarily interested in compliance with the standard. A person in this category would make their living from developing regulations, enforcing the requirements of the standard, developing programs tied to the standard, or advocating the standard. Example members of this category would be building code officials, building code organizations, state energy offices, and other local, state, and federal officials.

**Designer:** A designer of buildings, building systems or subsystems (including envelope, HVAC, lighting). A person in this category would make their living from designing buildings and systems that are impacted by the standard. Example members of this category would be architects, design firms, consulting engineers, lighting designers and employees of energy consulting firms.

**Designer/Builder:** Those who provide building design and construction services, including consulting engineers, HVAC and general contractors, design/build contractors, or representatives of associations of these types of professionals.

**Flight Personnel:** Individuals who are employed by the airlines as part of the aircraft crew (pilots and flight attendants) or individuals employed by the airlines to maintain the aircraft, and the organizations that represent these individuals.

**General Interest:** Building regulatory officials or their representatives, researchers, educators, IAQ specialists, and others with expertise in the fields of ventilation and indoor air quality, as well as medical doctors, public health experts, industrial hygienists or representatives of associations of these types of professionals. In addition, this category is intended for those who have interests other than those described in the other categories. Example members of this category would be employees of research institutions, universities, nationally recognized testing laboratories, employees of energy advocacy groups, and others with a general interest in energy utilization in buildings.

**Industry:** Construction firms or manufacturers, producers, or distributors of products or systems that would be installed in buildings. A person in this category would make their living from constructing buildings or producing or distributing products impacted by this standard or representing groups of manufacturers impacted by this standard. Example members of this category would be contractors, manufacturing firms, assembly firms, distributors and wholesalers, and industry trade associations that represent these groups.

**Manufacturer:** Employees or representatives of manufacturers, distributors or trade associations of HVAC equipment, HVAC controls, and equipment designed to enhance indoor air quality (e.g. air cleaners). Also, individuals associated with products used in the construction of buildings (e.g., finishes, wall and floor coverings, wood products) and used within buildings by occupants (e.g., furniture and furnishings, tobacco products, appliances, office equipment).

**Owner/Operator/Occupant:** Employees or representatives of building owners/managers, building engineers, facility managers, and consultants who specialize in working in existing buildings (as opposed to those who design and construct new buildings), as well as representatives of building occupants.

**Passenger (As used by SPC 161):** Individuals who pay to ride on aircraft, and the organizations that represent these individuals.

**Producer:** Those directly concerned with the production or distribution of the product or service involved, including industry associations representing producers or distributors, or those receiving substantial support from a producer directly concerned.

**Supplier:** Employees of firms that provide maintenance services for HVAC systems owned by others. This would include engineers and consultants with a primary job scope of specifying or supervising maintenance of HVAC systems owned by others. It would especially include contractors and technicians who actually perform HVAC system services for hire. This group may also include representatives of associations the membership of which falls in this category.

**User:** Users of buildings and building systems and subsystems. A person in this category would make their living from owning or operating buildings. Example members of this category would be building owners and operators (private and governmental), tenants, and trade associations or organizations representing these groups.

**Utility:** Those who provide energy services to buildings impacted by this standard. A person in this category would make their living from providing energy services to a building impacted by this standard. Example members of this category would be electric, gas, steam, or other utility and trade associations or organizations representing these groups.

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 148 of 169

# EXHIBIT 34



Telephone:

Fax:

E-Mail:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: \_\_\_\_\_ Date: 12/22/2009 Rec'd: 12/22/09

*All electronic submittals must have the following statement completed:*

I \_\_\_\_\_, through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

ASHRAE0022813



Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 150 of 169

# **EXHIBIT 35**



Telephone:

Fax:

E-Mail:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: \_\_\_\_\_ Date: 12/22/2009 Rec'd: 12/22/09

**All electronic submittals must have the following statement completed:**

I \_\_\_\_\_, through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.



Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 153 of 169

# EXHIBIT 36

CM SUBMITTAL FORM

NOTE: Use separate form for each comment. Submittals (MS Word 2000 preferred) may be attached to e-mail (preferred), submitted on diskettes or CD, or submitted in paper by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: [change.proposal@ashrae.org](mailto:change.proposal@ashrae.org). Fax +1-404/321-5478.

1. **Submitter:**

Affiliation:

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Country: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-Mail: \_\_\_\_\_

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this, or other analogous, form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: All electronic submittals must complete the following statement:

I (insert name), through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

2. **Number and year of standard:**3. **Clause (section), sub-clause or paragraph number; and page number:**

4. I propose to:  Change to read as follows  Delete and substitute as follows  
 (check one)  Add new text as follows  Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (~~deleted~~). Use additional pages if needed.

5. **Proposed change:**6. **Reason and substantiation:**7. **Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.**

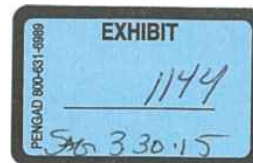
Check if additional pages are attached. Number of additional pages:

Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. *Please list your attachments here:*



Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 156 of 169

# **EXHIBIT 37**



FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT ASHRAE STANDARD, GUIDELINE OR ADDENDUM

PLEASE RETURN COMPLETED FORM BY JUNE 12, 2004

1. Name:

Affiliation:

Address: City: State: Zip:

Telephone: Fax: E-mail:

Designation and Title of First Public Review Draft: BSR/ASHRAE/IESNA Addendum al to ANSI/ASHRAE/IESNA Standard 90.1-2001, Energy Standard for Buildings Except Low-Rise Residential Buildings

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: Date

Check here if you are sending your signature (as required by this form) via fax or mail.

3. Clause or Subclause:

4. Comment:

(If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) Please do not submit marked-up or highlighted copies of the standard.)

5. Substantiating Statements:

(Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

Check if additional pages are attached. Number of additional pages:

Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

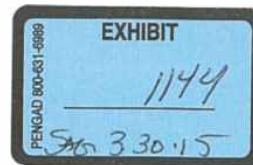
NOTE: Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: public.review.comment@ashrae.org. Ftp server address: ftp.ashrae.org, directory: public.review.comment. Fax 678-539-2134.

NOTE: To ensure receiving all notices provided for in the procedures, you are responsible for informing the ASHRAE Standards Section when your contact information changes. Otherwise you may not receive responses to comments, right-



to-appeal notices, and any other notices that may be sent to commenters. To update your contact information, send an email to [standards.section@ashrae.org](mailto:standards.section@ashrae.org). You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 03-01-2004



FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT ASHRAE STANDARD, GUIDELINE OR ADDENDUM

PLEASE RETURN COMPLETED FORM BY JUNE 12, 2004

1. Name:

Affiliation:

Address: City: State: Zip:

Telephone: Fax: E-mail:

Designation and Title of First Public Review Draft: BSR/ASHRAE/IESNA Addendum al to ANSI/ASHRAE/IESNA Standard 90.1-2001, Energy Standard for Buildings Except Low-Rise Residential Buildings

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: Date

Check here if you are sending your signature (as required by this form) via fax or mail.

3. Clause or Subclause:

4. Comment:

(If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) Please do not submit marked-up or highlighted copies of the standard.)

5. Substantiating Statements:

(Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

Check if additional pages are attached. Number of additional pages:

Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

NOTE: Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: public.review.comment@ashrae.org. Ftp server address: ftp.ashrae.org, directory: public.review.comment. Fax 678-539-2134.

NOTE: To ensure receiving all notices provided for in the procedures, you are responsible for informing the ASHRAE Standards Section when your contact information changes. Otherwise you may not receive responses to comments, right-

to-appeal notices, and any other notices that may be sent to commenters. To update your contact information, send an email to [standards.section@ashrae.org](mailto:standards.section@ashrae.org). You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 03-01-2004

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 161 of 169

# **EXHIBIT 38**

FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT  
ASHRAE STANDARD, GUIDELINE OR ADDENDUM



PLEASE RETURN COMPLETED FORM BY JANUARY 10, 2005

1. Name:

Affiliation:

Address:

City:

State:

Zip:

Telephone:

Fax:

E-mail:

Designation and Title of First Public Review Draft: BSR/ASHRAE/IESNA Addendum a to ANSI/ASHRAE/IESNA

Standard 90.1-2004, *Energy Standard for Buildings Except Low-Rise Residential Buildings*

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: \_\_\_\_\_ Date \_\_\_\_\_

Check here if you are sending your signature (as required by this form) via fax or mail.

3. Clause or Subclause:

4. Comment:

(If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) Please do not submit marked-up or highlighted copies of the standard.)

5. Substantiating Statements:

(Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

[ ] Check if additional pages are attached. Number of additional pages:

[ ] Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

NOTE: Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: [public.review.comment@ashrae.org](mailto:public.review.comment@ashrae.org). Ftp server address: <ftp.ashrae.org>, directory: [public.review.comment](http://public.review.comment). Fax 678-539-2134.

NOTE: To ensure receiving all notices provided for in the procedures, you are responsible for informing the ASHRAE Standards Section when your contact information changes. Otherwise you may not receive responses to comments, right-

to-appeal notices, and any other notices that may be sent to commenters. To update your contact information, send an email to [standards.section@ashrae.org](mailto:standards.section@ashrae.org). You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 03-01-2004

Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 164 of 169

# **EXHIBIT 39**



**FORM FOR SUBMITTAL OF PROPOSED CHANGE TO ASHRAE STANDARD  
UNDER CONTINUOUS MAINTENANCE**

**NOTE:** Use separate form for each comment. Submittals (MS Word 2000 preferred) may be attached to e-mail (preferred), submitted on diskettes or CD, or submitted in paper by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: *change.proposal@ashrae.org*. Fax +1-404/321-5478.



**1. Submitter:**

Affiliation:

Address: City: State: Zip: Country:

Telephone: Fax: E-Mail:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this, or other analogous, form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: \_\_\_\_\_ Date:

**2. Number and year of standard:**

**3. Clause (section), sub-clause or paragraph number; and page number:**

- 4. I propose to:**             Change to read as follows             Delete and substitute as follows  
                                    (check one)                                     Add new text as follows                                     Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (~~deleted~~). Use additional pages if needed.

**5. Proposed change:**

**6. Reason and substantiation:**

**7. Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.**

Check if additional pages are attached. Number of additional pages:

Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. *Please list your attachments here:*

May 13, 2003





Case 1:13-cv-01215-TSC Document 122-3 Filed 12/22/15 Page 167 of 169

# **EXHIBIT 40**



**CM SUBMITTAL FORM**

**NOTE:** Use separate form for each comment. Submittals (MS Word 2000 preferred) may be attached to e-mail (preferred), submitted on diskettes or CD, or submitted in paper by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: *change.proposal@ashrae.org*. Fax +1-404/321-5478.

**1. Submitter:**

Affiliation:

Address: City: State: Zip:  
Country:

Telephone: Fax: E-Mail:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this, or other analogous, form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: All electronic submittals must complete the following statement:  
I (*insert name*), through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

**2. Number and year of standard:**

**3. Clause (section), sub-clause or paragraph number; and page number:**

- 4. I propose to:  Change to read as follows  Delete and substitute as follows
- (check one)  Add new text as follows  Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (~~deleted~~). Use additional pages if needed.

**5. Proposed change:**

**6. Reason and substantiation:**

**7. Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.**

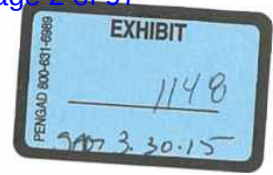
Check if additional pages are attached. Number of additional pages:

Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. *Please list your attachments here:*



Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 1 of 97

# EXHIBIT 41



FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT ASHRAE STANDARD, GUIDELINE OR ADDENDUM

PLEASE RETURN COMPLETED FORM BY

1. Name:

Affiliation:

Address: City: State: Zip:

Telephone: Fax: E-mail:

Designation and Title of First Public Review Draft:

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: Date

All electronic submittals must complete the following statement:

I (insert name), through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

3. Clause or Subclause:

4. Comment (Proposed Text):

(If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) (Please do not submit marked-up or highlighted copies of the standard.) (If it is a proposed withdrawal, please state here with specificity)

5. Substantiating Statements:

(Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

[ ] Check if additional pages are attached. Number of additional pages:

Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

**NOTE:** Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: [public.review.comment@ashrae.org](mailto:public.review.comment@ashrae.org). Ftp server address: <ftp.ashrae.org>, directory: <public.review.comment>. Fax 678-539-2134.

**NOTE:** To ensure receiving all notices provided for in the procedures, you are responsible for informing the ASHRAE Standards Section when your contact information changes. Otherwise you may not receive responses to comments, right-to-appeal notices, and any other notices that may be sent to commenters. To update your contact information, send an email to [standards.section@ashrae.org](mailto:standards.section@ashrae.org). You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 01-30-2006

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 4 of 97

# EXHIBIT 42





FORM FOR COMMENTING ON A PUBLIC REVIEW DRAFT ASHRAE STANDARD, GUIDELINE OR ADDENDUM

PLEASE RETURN COMPLETED FORM BY April 30, 2007

1. Name:

Affiliation:

Address: City: State: Zip:

Telephone: Fax: E-mail:

Designation and Title of First Public Review Draft: BSR/ASHRAE/IESNA Addendum \_\_\_\_\_ to ANSI/ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings

NOTE: Use a separate form for each comment, completing each section (including Sections 1 and 2) to facilitate separate processing. ASHRAE encourages original commentary on its standards. All comments must be accompanied by the commenter's signed release, as provided below. However, if commenters submit comments authored by others, those comments must also be accompanied by a signed copyright release from the author of the original comment. The original comment author, representing commenters who have submitted duplicate comments may be asked to engage in dialog supporting their position. All commenters shall receive acknowledgment from ASHRAE of receipt of their comment, and may receive a response in the form of the resolution of the original comment with that comment's author.

2. Copyright Release:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Author's Signature: \_\_\_\_\_ Date \_\_\_\_\_

[ ] All electronic submittals must complete the following statement: I (insert name) \_\_\_\_\_, through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

3. Clause or Subclause:

4. Comment (Proposed Text): (If a provision is proposed to be added, the text of the provision must be submitted in writing. If modification of a provision is proposed, the proposed text must be submitted utilizing the strikeout/underline format. (Strikeout text to be deleted and underline text to be added.) (Please do not submit marked-up or highlighted copies of the standard.) (If it is a proposed withdrawal, please state here with specificity)

5. Substantiating Statements: (Be brief; provide abstract of lengthy substantiation; full text should be enclosed for reference on request by project committee members.)

[ ] Check if additional pages are attached. Number of additional pages:

Check here if your comment is supportive in nature and does not require substantive changes in the current proposal in order to resolve your comment. If you select this option, your comment will not require a response from the project committee and will not be subject to the commenter response procedures.

**NOTE:** Use separate form for each comment. Submittals (MS Word preferred) may be attached to email, submitted on diskettes, uploaded to ASHRAE's ftp site, or submitted in paper form by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: [public.review.comment@ashrae.org](mailto:public.review.comment@ashrae.org). Ftp server address: <ftp.ashrae.org>, directory: <public.review.comment>. Fax 678-539-2134.

**NOTE:** To ensure receiving all notices provided for in the procedures, you are responsible for informing the ASHRAE Standards Section when your contact information changes. Otherwise you may not receive responses to comments, right-to-appeal notices, and any other notices that may be sent to commenters. To update your contact information, send an email to [standards.section@ashrae.org](mailto:standards.section@ashrae.org). You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 01-30-2006

ASHRAE0001611

JA02112

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 7 of 97

# EXHIBIT 43



FORM FOR SUBMITTAL OF PROPOSED CHANGE TO AN ASHRAE STANDARD UNDER CONTINUOUS MAINTENANCE

NOTE: Use a separate form for each comment. Submittals (Microsoft Word preferred) may be attached to e-mail (preferred), submitted on a CD, or submitted in paper by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: change.proposal@ashrae.org. Fax: +1-404/321-5478.

1. Submitter:

Affiliation:

Address: City: State: Zip: Country:

Telephone: Fax: E-Mail:

I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: \_\_\_\_\_ Date: \_\_\_\_\_

All electronic submittals must have the following statement completed:

I (insert name) through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

2. Number and year of standard:

3. Page number and clause (section), subclause, or paragraph number:

4. I propose to: [ ] Change to read as follows [ ] Delete and substitute as follows (check one) [ ] Add new text as follows [ ] Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (deleted). Use additional pages if needed.

5. Proposed change:

6. Reason and substantiation:

7. Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.

[ ] Check if additional pages are attached. Number of additional pages: \_\_\_\_\_ [ ] Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. Please list your attachments here:

Rev. 3-9-2007



Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 10 of 97

# EXHIBIT 44



Part 1 of 2  
**APPLICATION FOR PROJECT COMMITTEE ORGANIZATIONAL REPRESENTATIVE MEMBERSHIP**



1. ASHRAE Project Committee (Please use a separate form for each committee)

- SSPC 34 Designation and Safety Classification of Refrigerants
- SSPC 62.1 Ventilation for Acceptable Indoor Air Quality
- SSPC 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
- SSPC 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings
- SSPC 90.2 Energy Efficient Design of Low-Rise Residential Buildings
- SSPC 161 Air Quality Within Commercial Aircraft

2. Name of Applicant

Print or Type Name (First, Middle Initial, Last)

Today's Date

---

ASHRAE Member ID	Primary or Alternate Representative?	Organization Represented
------------------	--------------------------------------	--------------------------

---

3. Biographical information on ASHRAE's website: (check one):

- Has been completed/updated and contains current information.
- Will be completed/updated on \_\_\_\_\_.

4. The Potential Sources of Bias/Conflict of Interest form, specifically applicable to the purpose and scope of this Project Committee, has been completed:  Yes  No

(Note: This form *must be completed* if applying for membership on a Project Committee.)

5. If elected as an Organizational Member of the Project Committee, I would qualify in the following Interest Category (check one): (See next page for description of interest categories)

SSPC 34	SSPC 62.1	SSPC 62.2	SSPC 90.1	SSPC 90.2	SSPC 161
<input type="checkbox"/> Consulting	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Compliance	<input type="checkbox"/> Compliance	<input type="checkbox"/> Flight Personnel
<input type="checkbox"/> Engineer/Contractor/Architect	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest	<input type="checkbox"/> Designer	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest
<input type="checkbox"/> General Interest	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> General Interest	<input type="checkbox"/> Industry	<input type="checkbox"/> Manufacturer
<input type="checkbox"/> Producer/Vendor	<input type="checkbox"/> Own/Oper/Occ	<input type="checkbox"/> Own/Oper/Occ	<input type="checkbox"/> Industry	<input type="checkbox"/> Producer	<input type="checkbox"/> Owner/Operator
<input type="checkbox"/> User			<input type="checkbox"/> User	<input type="checkbox"/> User	<input type="checkbox"/> Passenger
			<input type="checkbox"/> Utility	<input type="checkbox"/> Utility	

PLEASE DO NOT ADD INTEREST CATEGORIES

6. By signing below, I certify that:

If elected as an Organizational Member of any ASHRAE Standard or Guideline Project Committee or appointed as a consultant to such committee I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive, royalty-free rights, including nonexclusive, royalty rights in copyright, to any contributions I make to documents prepared by or for such committee for ASHRAE publication and I understand that I acquire no rights in publication of such documents in which my contributions or other similar analogous form are used. I hereby attest that I have the authority and I am empowered to grant this copyright release.

I am authorized to commit that my organization agrees to the following:

- a) an intent to participate in a constructive way to achieve the Title, Purpose, and Scope (TPS) of the standard
- b) to provide an individual with appropriate technical or scientific qualifications to serve as their representative, and if
- c) to encourage the constituency of the organization to provide input and comments to the organization's representative,
- d) to provide feedback to the constituency of the organization on the disposition of input and comments submitted by the organization's representative,
- e) to not expect any financial support from ASHRAE for expenses related to participation in the activities of the SPC/SSPC

SIGNATURE \_\_\_\_\_

(Note: This form is not valid unless signed by Applicant.)

Submit Completed Form to: (PCMembership@ashrae.net); Tel. (678) 539-1125; Fax (678) 539-2125

## BACKGROUND

ASHRAE Standards 34, 62.1, 62.2, 90.1, 90.2 and 161 impact a diverse group of individuals and industries. The constituency for these standards transcends the typical interest categories suggested by ANSI. These interest categories are intended to address the multidisciplinary nature of the standards, and to provide a better balance of interest categories for the SPC/SSPC.

### DEFINITIONS

**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 categories:** the principal (top) tier of interest classifications. For some standards projects, it may be appropriate to designate subcategories of one or more interest category.

### INTEREST CATEGORIES

**Compliance:** Persons primarily interested in compliance with the standard. A person in this category would make their living from developing regulations, enforcing the requirements of the standard, developing programs tied to the standard, or advocating the standard. Example members of this category would be building code officials, building code organizations, state energy offices, and other local, state, and federal officials.

**Designer:** A designer of buildings, building systems or subsystems (including envelope, HVAC, lighting). A person in this category would make their living from designing buildings and systems that are impacted by the standard. Example members of this category would be architects, design firms, consulting engineers, lighting designers and employees of energy consulting firms.

**Designers/Builders:** Those who provide building design and construction services, including consulting engineers, HVAC and general contractors, design/build contractors, or representatives of associations of these types of professionals.

**General:** Building regulatory officials or their representatives, researchers, educators, IAQ specialists, and others with expertise in the fields of ventilation and indoor air quality. Also, medical doctors, public health experts, industrial hygienists or representatives of associations of these types of professionals.

In addition, this category is intended for those who have interests other than those described in the other categories. Example members of this category would be employees of research institutions, universities, nationally recognized testing laboratories, employees of energy advocacy groups, and others with a general interest in energy utilization in buildings.

**Industry:** Construction firms or manufacturers, producers, or distributors of products or systems that would be installed in buildings. A person in this category would make their living from constructing buildings or producing or distributing products impacted by this standard or representing groups of manufacturers impacted by this standard. Example members of this category would be contractors, manufacturing firms, assembly firms, distributors and wholesalers, and industry trade associations that represent these groups.

**Manufacturers:** Employees or representatives of manufacturers, distributors or trade associations of HVAC equipment, HVAC controls, and equipment designed to enhance indoor air quality (e.g. air cleaners). Also, individuals associated with products used in the construction of buildings (e.g., finishes, wall and floor coverings, wood products) and used within buildings by occupants (e.g., furniture and furnishings, tobacco products, appliances, office equipment).

**Owners/Operators/Occupants:** Employees or representatives of building owners/managers, building engineers, facility managers, and consultants who specialize in working in existing buildings (as opposed to those who design and construct new buildings). Also representatives of building occupants.

**Producer:** those directly concerned with the production or distribution of the product or service involved, including industry associations representing producers or distributors, or those receiving substantial support from a producer directly concerned.

**User:** Users of buildings and building systems and subsystems. A person in this category would make their living from owning or operating buildings. Example members of this category would be building owners and operators (private and governmental), tenants, and trade associations or organizations representing these groups.

**Utility:** Those who provide energy services to buildings impacted by this standard. A person in this category would make their living from providing energy services to a building impacted by this standard. Example members of this category would be electric, gas, steam, or other utility and trade associations or organizations representing these groups.





PART 2 of 2

**PROJECT COMMITTEE ORGANIZATIONAL MEMBERSHIP CONTACT INFORMATION**

Committee No: \_\_\_\_\_

Committee Name \_\_\_\_\_

Organization		
Contact Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

Primary Representative Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

Alternate Representative Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

Please describe your organization's interest in this Project Committee:

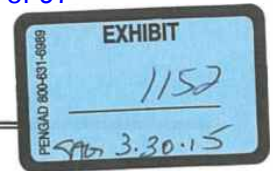
Please submit this form with copies of the "Application for Project Committee Organizational Representative Membership" forms for each applicant listed above.  
Submit completed forms to [PCMembership@ashrae.net](mailto:PCMembership@ashrae.net) or fax to 678 539-2125

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 14 of 97

# EXHIBIT 45



## ASHRAE Standard/Guideline Project Committee Application for Individual Membership



1. Name of Applicant Print or Type Name (Last, First, Middle Initial) below \_\_\_\_\_

Today's Date \_\_\_\_\_

ASHRAE Member/Non Member ID (ASHRAE Membership is not a requirement unless applying for Chair or Vice-Chair position) \_\_\_\_\_

\*Committee Position for Which You Are Applying: (see below) \_\_\_\_\_

\*VM-Project Committee Voting Member, SVM-Project Subcommittee Voting Member, NVM-Non-Voting Member, CON-Consultant, or Primary/Alternate Organizational Rep

2. I am applying for Individual Membership on the following ASHRAE Project Committee: (Please use a separate form for each committee.)

- SSPC 34 Designation and Safety Classification of Refrigerants
- SSPC 62.1 Ventilation for Acceptable Indoor Air Quality
- SSPC 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
- SSPC 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings
- SSPC 90.2 Energy Efficient Design of Low-Rise Residential Buildings
- SSPC 161 Air Quality Within Commercial Aircraft
- SPC 189.1 Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings

If you are applying for a committee other than those listed above, please enter committee information below and use the Default Interest Categories listed in Section 4:

\_\_\_\_\_

3. Bio Report (in the "Member Central" section of the ASHRAE website) and the Potential Sources of Bias/Conflict of Interest form:

Bio information current within a year from today. Date Bio information on ASHRAE's website was completed/updated: \_\_\_\_\_

I have completed and signed the Potential Sources of Bias/Conflict of Interest form. Date form was completed/updated: \_\_\_\_\_

4. If elected as a member of the Project Committee, I would qualify in the following Interest Category (check one):  
(Descriptions of Interest Categories are on Page 2)

DEFAULT	SSPC 34	SSPC 62.1	SSPC 62.2	SSPC 90.1	SSPC 90.2	SSPC 161
<input type="checkbox"/> General Interest	<input type="checkbox"/> Consulting Engineer/ Contractor/Architect	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Design/Builders	<input type="checkbox"/> Compliance	<input type="checkbox"/> Compliance	<input type="checkbox"/> Flight Personnel
<input type="checkbox"/> Producer	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest	<input type="checkbox"/> Designer	<input type="checkbox"/> General Interest	<input type="checkbox"/> General Interest
<input type="checkbox"/> User	<input type="checkbox"/> Producer/Vendor	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> Manufacturer	<input type="checkbox"/> General Interest	<input type="checkbox"/> Industry	<input type="checkbox"/> Manufacturer
<input type="checkbox"/> Supplier (category may not be available-check with PC Chair)	<input type="checkbox"/> User	<input type="checkbox"/> Owner/Operator/ Occupant	<input type="checkbox"/> Owner/Operator/ Occupant	<input type="checkbox"/> Industry	<input type="checkbox"/> Producer	<input type="checkbox"/> Owner/Operator
			<input type="checkbox"/> User	<input type="checkbox"/> User	<input type="checkbox"/> Utility	<input type="checkbox"/> Passenger
				<input type="checkbox"/> Utility		

**SPC 189.1**

- Compliance
- Designer
- General Interest
- Industry
- User
- Utility

~PLEASE DO NOT ADD INTEREST CATEGORIES~

5. By signing below, I certify that:

*If elected as a member of any ASHRAE Standard or Guideline Project Committee or appointed as a consultant to such committee, I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive, royalty-free rights, including nonexclusive, royalty rights in copyright, to any contributions I make to documents prepared by or for such committee for ASHRAE publication and I understand that I acquire no rights in publication of such documents in which my contributions or other similar analogous form are used. I hereby attest that I have the authority and I am empowered to grant this copyright release.*

**SIGNATURE** \_\_\_\_\_

Note: This form is not valid unless signed by Applicant

Submit Completed Form to: [Standards.Section@ashrae.org](mailto:Standards.Section@ashrae.org); Tel. (678) 539-1143; Fax (678) 539-2143

Last Revision: 10/09 - Page 1

Note: If applying for Organizational membership, please complete the Application for Project Committee Organizational Representative Membership with your information, and the Application for PC Organizational Membership with information on the organization you will represent.

## DEFINITIONS

**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 categories:** the principal (top) tier of interest classifications. For some standards projects, it may be appropriate to designate subcategories of one or more interest category.

## INTEREST CATEGORIES

**Compliance:** Persons primarily interested in compliance with the standard. A person in this category would make their living from developing regulations, enforcing the requirements of the standard, developing programs tied to the standard, or advocating the standard. Example members of this category would be building code officials, building code organizations, state energy offices, and other local, state, and federal officials.

**Designer:** A designer of buildings, building systems or subsystems (including envelope, HVAC, lighting). A person in this category would make their living from designing buildings and systems that are impacted by the standard. Example members of this category would be architects, design firms, consulting engineers, lighting designers and employees of energy consulting firms.

**Designer/Builder:** Those who provide building design and construction services, including consulting engineers, HVAC and general contractors, design/build contractors, or representatives of associations of these types of professionals.

**Flight Personnel:** Individuals who are employed by the airlines as part of the aircraft crew (pilots and flight attendants) or individuals employed by the airlines to maintain the aircraft, and the organizations that represent these individuals.

**General Interest:** Building regulatory officials or their representatives, researchers, educators, IAQ specialists, and others with expertise in the fields of ventilation and indoor air quality, as well as medical doctors, public health experts, industrial hygienists or representatives of associations of these types of professionals. In addition, this category is intended for those who have interests other than those described in the other categories. Example members of this category would be employees of research institutions, universities, nationally recognized testing laboratories, employees of energy advocacy groups, and others with a general interest in energy utilization in buildings.

**Industry:** Construction firms or manufacturers, producers, or distributors of products or systems that would be installed in buildings. A person in this category would make their living from constructing buildings or producing or distributing products impacted by this standard or representing groups of manufacturers impacted by this standard. Example members of this category would be contractors, manufacturing firms, assembly firms, distributors and wholesalers, and industry trade associations that represent these groups.

**Manufacturer:** Employees or representatives of manufacturers, distributors or trade associations of HVAC equipment, HVAC controls, and equipment designed to enhance indoor air quality (e.g. air cleaners). Also, individuals associated with products used in the construction of buildings (e.g., finishes, wall and floor coverings, wood products) and used within buildings by occupants (e.g., furniture and furnishings, tobacco products, appliances, office equipment).

**Owner/Operator/Occupant:** Employees or representatives of building owners/managers, building engineers, facility managers, and consultants who specialize in working in existing buildings (as opposed to those who design and construct new buildings), as well as representatives of building occupants.

**Passenger (As used by SPC 161):** Individuals who pay to ride on aircraft, and the organizations that represent these individuals.

**Producer:** Those directly concerned with the production or distribution of the product or service involved, including industry associations representing producers or distributors, or those receiving substantial support from a producer directly concerned.

**Supplier:** Employees of firms that provide maintenance services for HVAC systems owned by others. This would include engineers and consultants with a primary job scope of specifying or supervising maintenance of HVAC systems owned by others. It would especially include contractors and technicians who actually perform HVAC system services for hire. This group may also include representatives of associations the membership of which falls in this category.

**User:** Users of buildings and building systems and subsystems. A person in this category would make their living from owning or operating buildings. Example members of this category would be building owners and operators (private and governmental), tenants, and trade associations or organizations representing these groups.

**Utility:** Those who provide energy services to buildings impacted by this standard. A person in this category would make their living from providing energy services to a building impacted by this standard. Example members of this category would be electric, gas, steam, or other utility and trade associations or organizations representing these groups.

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 17 of 97

# **EXHIBIT 46**



Shaping Tommorrow's  
Built Environment Today

Home

- View All Site Content
- My Comments
- Reports
  - Admin Report
- Online Public Review
  - Drafts
- Documents
  - Public Review Draft Standards
  - Standards Actions
  - Older Standards Actions
- Lists
- Sites
- People and Groups
- Standards Web Page
- Recycle Bin

In order to submit a comment you must agree to the following by entering your name in the box below and clicking the "I Agree" button.

Through this electronic signature, I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

As agreement, please type your name in the box below exactly as it is shown:

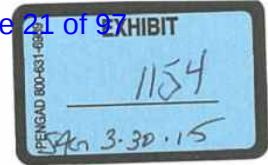
name of whoever is logged in to comment  
would be entered here



Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 20 of 97

# EXHIBIT 47





Browser address bar: <https://osr.ashrae.org/silepages/CommentAgreement.aspx?DocItemID=1176&DocListID=4e863a5d-1a20-40e>

Browser tabs: ASHRAE Staff Resources (7 unread) - sreiniche..., Standards, Research &... | <https://www.mypayme...> (17 unread) - sreiniche... | ISO/IEC 17025:2005 G... | Most Visited

Page Header: **Built Environment Today**

Navigation: Home | Site Actions

- View All Site Content
- My Comments
- Reports
  - Admin Report
- Online Public Review Drafts
- Documents
  - Public Review Draft Standards
  - Standards Actions
  - Older Standards Actions
- Lists
- Alerts
- People and Groups
- Standards Web Page

In order to submit a comment you must agree to the following by entering your name in the box below and clicking the "I Agree" button.

Through this electronic signature, I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

As agreement, please type your name in the box below exactly as it is shown:

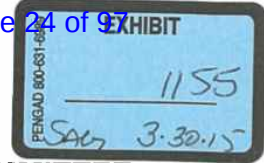
Mrs Stephanie C Rein

\_\_\_\_\_



Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 23 of 97

# **EXHIBIT 48**



**APPLICATION FOR MEMBERSHIP  
ON ASHRAE STANDARD OR GUIDELINE PROJECT COMMITTEE**

1. ASHRAE Project Committee for which you are applying:

\_\_\_\_\_  
Committee Number      Committee Name

2.

\_\_\_\_\_  
First Name or Initial      Middle Name or Initial      Last Name

3.

\_\_\_\_\_  
ASHRAE Member Number (if known)      Date

4. An updated edition of the ASHRAE Biographical Record is (check one):

- On file at ASHRAE Headquarters
- Attached to this application

5. A Potential Sources of Bias and Conflict of Interest form specifically applicable to the purpose and scope of this Project Committee is (check one):

- On file at ASHRAE Headquarters
- Attached to this application

6. If elected as a voting member of the Project Committee, I would qualify in the following Interest Category (Check one. See reverse side for definitions.):

- User Interest member
- Producer Interest member
- General Interest member

7. If elected as a member of any ASHRAE Standard or Guideline Project Committee or appointed as a consultant to such committee I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive, royalty-free rights, including nonexclusive, royalty rights in copyright, to any contributions I make to documents prepared by or for such committee for ASHRAE publication and I understand that I acquire no rights in publication of such documents in which my contributions or other similar analogous form are used. I hereby attest that I have the authority and I am empowered to grant this copyright release.

Signature \_\_\_\_\_

(March 5, 2001)

ASHRAE0001598

JA02130

**DEFINITIONS EXCERPTED FROM ANNEX A  
MANUAL FOR PROCESSING ASHRAE STANDARDS COMMITTEE DOCUMENTS**

**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 categories:** the principal (top) tier of interest classifications. For some standards projects, it may be appropriate to designate subcategories of one or more interest category. Following are examples of functions covered by each interest category:

**Producer:** those directly concerned with the production or distribution of the product or service involved, including industry associations representing producers or distributors, or those receiving substantial support from a producer directly concerned.

**User:** those who use the product or service involved, or those who receive substantial support from a user directly concerned, but are not involved with its production or distribution. This reference is not to users of the standard, but to users of the product or service covered by the standard.

**General:** those who have interests other than those described above and may include consulting engineers or employees of appropriate Government agencies, nationally recognized testing laboratories or educational institutions, and codes-oriented individuals.

Example subcategories of the User interest category follow:

**User-Consumer:** a person using goods and services rather than producing or selling them, when the standards activity deals with a consumer product such as a room air conditioner.

**User-Industrial:** the industrial user of a product, where the standards activity deals with an industrial product such as refrigerant chemicals.

**User-Government:** the representative of a government agency, where the standards activity is likely to be used as the basis for government agency procurement such as for the design or performance testing of building systems or equipment.

**User-Labor:** a representative of labor, where the standards activity deals with worker products used in the workplace or with the workplace environment.

**Note:** The subcategories shown are for example only. The SPLS Subcommittee of the Standards Committee may approve chairman-recommended use of a) subcategories for any interest category, b) no subcategories at all, or c) different interest categories.

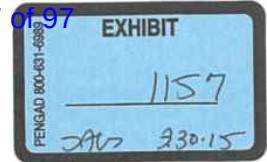
(March 5, 2001)

ASHRAE0001599

JA02131

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 26 of 97

# **EXHIBIT 49**



Memorandum of Understanding Between The United States Department of Energy And The American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

By this Memorandum of Understanding (MOU), the U.S. Department of Energy (DOE) and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) agree to further their long-term relationship by working cooperatively to improve the efficient use of energy and the viable and widespread use of renewable energy sources, and to minimize the impact of energy use on the environment.

DOE and ASHRAE are committed to working together toward the following goals:

- 1) Promoting and supporting the continuing development and distribution of ASHRAE standards related to energy efficiency, in particular:
- ANSI/ASHRAE/IES Standard 90.1, Energy Efficient Design of New Buildings Except Low Rise Residential Buildings.
- ANSI/ASHRAE/IES Standard 90.2, Energy Efficient Design of Low-Rise Residential Buildings
- ANSI/ASHRAE Standard 62.1, Ventilation and Acceptable Indoor Air Quality In Commercial, Institutional, Industrial and High-rise Residential Buildings,
- ANSI/ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings.
- ANSI/ASHRAE/IES Standard 100, Energy Efficiency in Existing Buildings.
- ANSI/ASHRAE 135, BACnet - A Data Communication Protocol for Building Automation and Control Networks,
- ANSI/ASHRAE/USGBC/IES Standard 189.1, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, and
- Proposed ASHRAE/NEMA Standard 201, Facility Smart Grid Information Model
2) Promoting and supporting implementation of ASHRAE standards through training programs, including self-directed learning, building code interaction, and ASHRAE Chapter-oriented training.
3) Promoting and supporting development of guidance for exceeding the minimum efficiencies set by Standard 90.1 and Standard 90.2, and new metrics for commercial building and residential energy efficiency and environmental impact.
4) Cooperating in, and supporting research into, clean and renewable sources of energy, energy efficiency in buildings and equipment, and environmental impact of energy and material use.

- 5) Cooperating in promotion of ANSI/ASHRAE standards adoption in the International Standards Organization (ISO) standards.
- 6) Collaborating on the accelerated development and distribution of advanced energy design guidance publications, such as the 30%, 50% and net-zero Advanced Energy Design Guides that can support accelerated transformation to a more sustainable built environment.
- 7) Cooperating in the development and adoption of mechanisms that promote energy efficiency in buildings, such as the Building Energy Quotient (Building EQ) program and the professional certifications.
- 8) Cooperating in promotion of ANSI/ASHRAE standards adoption in building codes.
- 9) Working within the building community and related professions to encourage the interoperability of building related software and integrated solutions among design disciplines, manufacturers, contractors, building owners and operators, to increase energy efficiency, health, and productivity in new and existing buildings.
- 10) Advancing and supporting the professional development of DOE personnel by facilitating membership, attendance, and active participation at the local and Society levels of ASHRAE, especially as members of Technical Committees and Standard Project Committees, and by providing a venue for publication of research and practice.
- 11) Ensuring sufficient numbers of qualified professionals through the full spectrum of building design, equipment installation, building commissioning, building operations and maintenance, and facility management through comprehensive workforce development programs. This includes promoting and encouraging the study of mathematics and science to pre-college students, quality technician and contractor training, the study of building design within college curricula, and the pursuit of continuing education in all of these categories of building professionals. .
- 12) Providing and supporting communication of information regarding technology transfer to building owners and management about the interrelationships between mechanical systems and building operating costs, noting energy, indoor environmental quality workplace performance, client satisfaction, and public safety.
- 13) Monitoring the operational, energy and environmental impacts of new counter-terrorism design features, and promoting minimization of those impacts.
- 14) Collaborating to increase the impact of the all energy hubs created as part of the DOE Energy Efficient Building Systems Regional Innovation Cluster Initiative.
- 15) Driving the development and implementation of next-generation refrigerants that achieve low-GWP (Global Warming Potential) targets and concurrently improve equipment energy efficiency.

Collaboration under this MOU will be in accordance with applicable statutes and regulations.



This MOU in no way restricts either of the parties from participating in any activity with other public or private agencies, organizations or individuals.

This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value.

This MOU is strictly for internal purposes for each of the parties. It is not legally enforceable and shall not be construed to create any legal obligation on the part of either party. This MOU shall not be construed to provide a private right or cause of action for or by any person or entity.

The MOU will become effective upon signature by the Assistance Secretary for the Office of Energy Efficiency and Renewable Energy in DOE and the President of ASHRAE. It may be modified or amended by written agreement between both parties, and such amendments shall become part of, and shall be attached to this MOU. This MOU shall terminate at the end of three (3) years unless revised or extended at that time by written agreement of the parties. It may be terminated at any time by either party upon 90 days written notice to the other. Its provisions will be reviewed periodically and amended/supplemented if mutually agreed upon in writing.

\_\_\_\_\_  
Kathy Zoi Lynn G. Bellenger  
Assistant Secretary  
Energy Efficiency and Renewable Energy  
U.S. Department of Energy

\_\_\_\_\_  
President, 2010-2011  
ASHRAE

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 30 of 97

# EXHIBIT 50

PENCAD 800-331-6988  
EXHIBIT  
1159  
SAC 3.30.15

# Marketing Task Group

## TG Meeting Report

### June 26, 2004

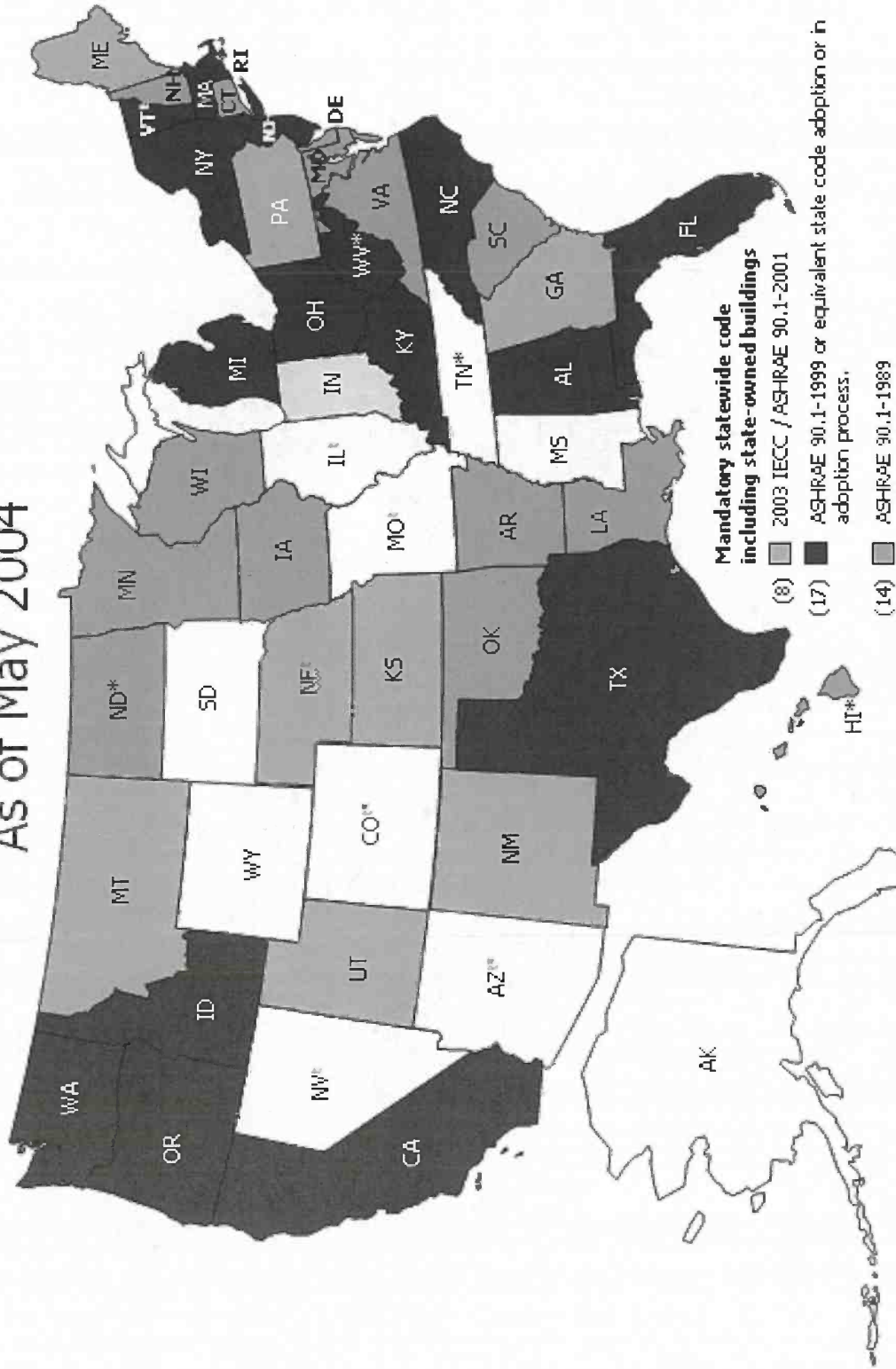
ASHRAE0003496

# Good News? Bad News? Both?

- Increased number of states using or referencing 90.1
- However, these “adoptions” and references are almost all due to adoption of the I-codes, not the direct adoption of 90.1

# Commercial Energy Codes Status

As of May 2004



Building Codes Assistance Project  
 Commercial Map 5/20/04

ASHRAE0003498



## Other Marketing Issues

- Cost of the standard remains an issue
  - Appreciate free “viewing” on the ASHRAE website
- Customers versus competitors?
  - ICC, IECC, NFPA, Advanced Building Guidelines, etc.
- What’s a standard?
  - SP 102 process versus Standards process

# Challenges to Adoption

- Cost of the Standard
  - Revenue objectives are antithetical to widespread adoption
- Do we participate in the “battles” in the marketplace surrounding use of our product?
  - Fighting with our customers?
  - Allies or adversaries? Who decides?

# Additional Challenges

- “Trickle down” adoption approach takes a lot of time
  - If we build it, **WILL** they come?
  - Others are building code “products” on a much faster timeframe
  - Can we similarly respond?



## Some Recognized Risks

- Code proposals to adopt something other than 90.1
  - Others are not passive
- Code proposals that are more stringent than 90.1
  - Viewed as a significant risk to our “standing” in the marketplace
  - Others are not passive

# More Recognized Risks

- Perceived loss of “balance of interests” on the committee
  - “Perception is reality”?
  - Risk to marketplace “standing”?
  - Impediment to more robust development?
- ASHRAE has the right experts, do we have the right process to support a market need or desire?

# Additional Challenges

- **Format and Utility**
  - Envelope section is nearly un-useable in present format
  - Entire format is cumbersome and not customer focused
  - Software version needed to increase ease of use



# Challenges/Opportunities

- Training
  - Need a training and delivery plan to better get our “product” to the marketplace.
  - Numerous customers for training could aid in adoption
    - Engineers (and EITs)
    - Architects (and architecture students)

# Recommendations (Repeated)

- Make it free
- Make it beautiful
- Make it electronic
- Make it easy to demonstrate compliance
- Make it easy for code officials to use
- Spend \$X on development and \$2X on marketing

# Operational Recommendations

- Make sure it is developed in a balanced manner
- Set specific improvement targets for each round of the standard.
  - 10% by 2007? 25% by 2009?
  - What are we working toward?
- If we set targets, don't let it out the door until we meet them.
  - Authority coupled with Responsibility.



# New Marketplace Activities

- What makes 90.1 meaningful? Why should a state care?
- “No building left behind”
  - Build new compliance systems for states
  - Improved state enforcement under EPCA?
    - Penalties for non-compliance?
    - Teeth?

ASHRAE0003508

# Paradigm Shift Issues

- Decide if we want to continue to live in this code minimum world
  - Should we declare victory and go home?
  - Is this an appropriate job for ASHRAE?
  - Should we ride another horse?
  - How long will we have our EPA Act advantage?

ASHRAE0003509



# Mountaintop Question

Do we want to change the world?

If so, are our current actions  
aligned with this goal?

Do we have a business plan aligned  
with this goal?

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 46 of 97

# EXHIBIT 51



**From:** Ferguson, Steve <SFerguson@ashrae.org>  
**Sent:** Thursday, December 17, 2009 7:27 PM  
**To:** Read, Doug; Colker, Ryan; gholness@comcast.net; Littleton, Jeff; ron.jarnagin@pnl.gov; Bellenger, Lynn  
**Cc:** Ramspeck, Claire; Reiniche, Stephanie; mschwedler@trane.com; Drake Erbe  
**Subject:** RE: IECC and 90.1  
**Attachments:** FW: comparison document for 90.1 and IECC (1.62 MB)

Is the document in the attached email the comparison document referred to below?

Thanks  
Steve

From: Read, Doug  
 Sent: Thursday, December 17, 2009 1:45 PM  
 To: Colker, Ryan; gholness@comcast.net; Littleton, Jeff; ron.jarnagin@pnl.gov; Bellenger, Lynn  
 Cc: Ramspeck, Claire; Ferguson, Steve; Reiniche, Stephanie; mschwedler@trane.com; Drake Erbe  
 Subject: RE: IECC and 90.1

I echo Ryan's concerns. I suggest we take a stance and clearly delineate the differences, and differentiate ourselves from the ICEC...Doug

Doug Read, Program Director of Government Affairs American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.  
 Extension: Fax: 202-833-0118 eMail: [DRead@ashrae.org](mailto:DRead@ashrae.org) Web: [www.ASHRAE.org](http://www.ASHRAE.org)<<http://www.ashrae.org/>>

From: Colker, Ryan  
 Sent: Thursday, December 17, 2009 1:42 PM  
 To: gholness@comcast.net; Littleton, Jeff; ron.jarnagin@pnl.gov; Bellenger, Lynn  
 Cc: Ramspeck, Claire; Ferguson, Steve; Reiniche, Stephanie; mschwedler@trane.com; Drake Erbe; Read, Doug  
 Subject: IECC and 90.1

Folks,

We are seeing some indications from DOE that they are beginning to see the IECC and 90.1 as equivalent (i.e., states can be in compliance if they adopt the IECC without the reference to 90.1). As you can guess, this could have significant impact on the future of 90.1. Of course, there are several considerations as why this is likely not the case (IECC has not undergone the rigorous determination and modeling process of 90.1, IECC is not developed under the ANSI consensus process, etc.). Below are some notes outlining a recent meeting aimed at code adoption organized by BCAP and which includes participation by DOE (I was just made aware of this group and will begin participating).

In my view, we have a couple of options, but their palatability depends on our relationship with ICC and how far we are willing to go:

1. Send a strongly worded letter to DOE leadership expressing our view (including some of the points above)
2. Come out with our own document on how the IECC is not equivalent to 90.1 and why states should continue to utilize 90.1

Please let me know if/how you would like to proceed.

Ryan

Air Support Committee Notes: 12-7-09

Key updates:

FROM DOE:

DOE will publish a side-by-side comparison of ASHRAE 90.1 and the 2009 IECC for commercial buildings. While the report will not specifically state a conclusion - the bottom line is that the two can be viewed as EQUIVALENT.

DOE will make money available for training materials and other educational information. Rescheck has been updated for '09- no rescheck for IRC.

DOE is trying to get final answer on what states will need to report to illustrate 90% compliance- definitive answer to come.

There will be a new program manager after 1-1-10.

Setting Priorities: Where do we need troops on the ground? - Please continue to communicate your organization's focus to the group. We can HELP! Some organizations have available troops and other resources that have yet to be allocated

- In SE the new year will bring a lot of focus on TN and AL. GA also has a lot of action
- May need help from those with legislative connections in NY, MO, and definitely WV
- There is a need to discuss compliance/enforcement- but this is best done in the new year in a forum outside this committee

Upcoming ACTIONS:

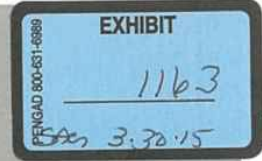
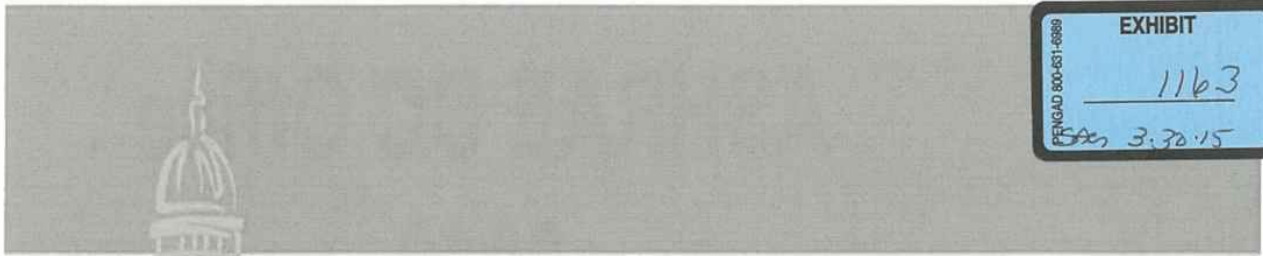
- RECA code guides are on their way (and make excellent holiday gifts)
- NAIMA will put together a map showing where NAIMA's members are located
- Harry will meet with Paul and Eric to update the graph Harry shared earlier this year
- Monica will take a crack at crafting a one-pager showing how the model code saves money  
Monica will work with others to craft a one-page letter clarifying for states that 90.1 and ASHRAE are equivalent for Recovery Act purposes (I assume this is supposed to say 90.1 and IECC)

Ryan Colker, Manager, Government Affairs American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Extension: 1116 Fax: 202-833-0118 eMail: [RColker@ashrae.org](mailto:RColker@ashrae.org) Web: [www.ASHRAE.org](http://www.ASHRAE.org)<<http://www.ashrae.org/>>

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 49 of 97

# **EXHIBIT 52**



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



# ASHRAE

## Government Affairs:

### Technical Expertise to Policymakers



Doug Read,  
Program Director,  
Gov't Affairs

Presentation to ASHRAE CTTC and TC

Albuquerque, New Mexico

June 26, 2010



Patricia Ryan,  
Assistant to the  
Director, Washington  
Office



Mark Ames, Manager,  
Gov't Affairs

ASHRAE Washington Office

1828 L Street, NW

Suite 906

Washington, DC 20036

202-833-1830

[www.ashrae.org/advocacy](http://www.ashrae.org/advocacy)

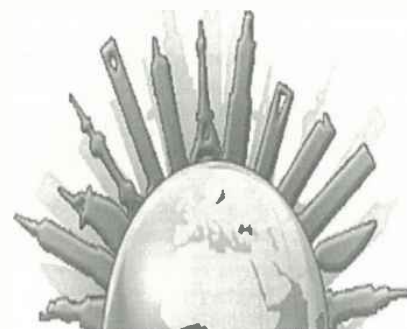
ASHRAE0024558



# ASHRAE DC Office

## 2010

- Participation in Coalitions
- Workshops/Symposia
- DOE Fellowship
- Internship
- Advocacy
- Government Relations Activities



ASHRAE0024559



# Participation in Coalitions

## High Performance Building Congressional Caucus

### Coalition (ask your representative to join)

- Secretariat
- Monthly briefings
- Federal Building Legislation
  
- 2030 Coalition signatory (AIA, ICC, USGBC, GBI)
  
- Zero-Energy Commercial Building Consortium  
([www.zeroenergycbc.org](http://www.zeroenergycbc.org))
  
- Steering Committee Member
  - ASHRAE Co-Chairs Codes and Standards Working Group
  
- Response to EISA Sec. 421/422
  
- Science, Technology, Engineering, and Math (STEM)  
Education Coalition





# Participation in Coalitions

- **World Standards Day**
- **Building Community Ad Hoc (climate change, building codes, depreciation, tax credits, federal buildings, Rebuild Haiti, BuildingStar, etc)**
- **HVAC Alliance (ACCA, AHRI, HARDI, PHCC)**
- **Commercial Building Tax Deduction Coalition**
- **Code Adoption and Enforcement (NASEO, ICC, ASE, BCAP)**



# Workshops/Symposia/Meetings



## Capitol Hill Briefings

- January 28 Facilities Management for Sustainability (IFMA)
- February 4 After the Earthquake: The Role of Buildings and Infrastructure,
- February 25 SBIC Beyond Green Awards Reception & Briefing (SBIC)
- March 23 Insulation and the High-Performance Building (SPFA/PIMA/NAIMA)
- April 24 What's Your Quality of Light? Sustainable Solutions for Human Needs  
– and Energy Efficiency (IALD, IES, ALA)
- May 24 Building STAR Legislation: Retrofitting Our Way to Energy Saving and Job  
Creation (AHRI, ASHRAE, NEMA)
- June 15 Getting the Whole Picture of High-Performance Buildings (NIBS)
- June 18 The Zero Energy Commercial Buildings Consortium: A Public-Private  
Consortium for Zero Energy High Performance Buildings (ASE)
- 
- 
- 
- 
- Future: Rating Tools for Green Buildings (GBI)
- Can Climate Friendly Buildings be High-Performance (EESI)
- Technological Innovations and the Small Business (AHRI/ACCA)
- Solar Reflective Roofing (RCMA)
- 

## ➤ ASHRAE Presidential Meetings

- April 26-28, 2010, DOE, BOMA, USGBC, ASE, AGA, SMACNA



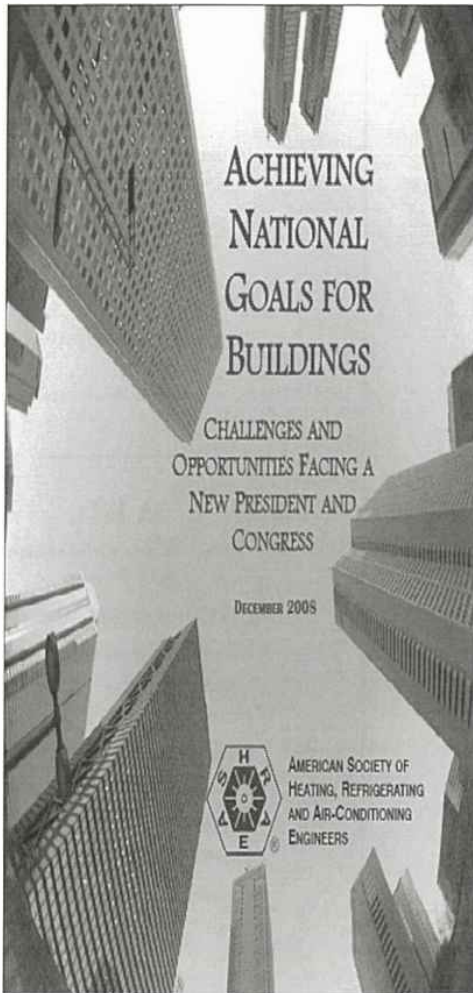


# Workshops/Symposia/Meetings

- NIST/BFRL Workshop on International Engagement
- Rebuilding America – Building Star
- AGC Meeting on Construction and Climate Change
- NAE Symposium on K-12 Engineering Education
- NEMA Energy Tax Coalition
- Interagency Sustainability Working Group
- ACEEE Briefing on Behaviors for Energy Efficiency
- Interagency Council on Indoor Air Quality
- USGBC Building Performance Initiative Discussion
- GSA Workshop on Federal Building Commissioning



# Advocacy



➤ Report to New Congress & President on Buildings

Explanatory Statement on Section 410, Recovery Act (HR1) by National Building Community Stakeholders (November 18, 2009)

Since the passage of the American Recovery and Reinvestment Act (ARRA) in February, 2009, State Energy Program ("SEP") funding tied to building energy code adoption and enforcement has been the subject of much discussion and debate. The objective of this statement is to clarify the intention of the statute and to offer assistance to state and local governments to advance building energy efficiency codes, including code adoption, training in the operation of the codes and efforts at compliance and enforcement. We recognize that success in this area will not be easy but we have joined together to help, in an effort to provide accurate, understandable, and actionable information to states, local governments and the organizations and entities that support greater energy efficiency in the built environment. The undersigned groups offer the following information about Sec. 410, of ARRA.

The actual statutory provision is as follows

Section 410 (a) (2)  
The State, or the applicable units of local government that have authority to adopt building codes, will implement the following:

- (A) A building energy code (or codes) for residential buildings that meets or exceeds the most recently published International Energy Conservation Code, or achieves equivalent or greater energy savings.
- (B) A building energy code (or codes) for commercial buildings throughout the State that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1-2007, or achieves equivalent or greater energy savings.
- (C) A plan for the jurisdiction achieving compliance with the building energy code or codes described in subparagraphs (A) and (B) within 8 years of the date of enactment of this Act in at least 90 percent of new and renovated residential and commercial building space. Such plan shall include active training and enforcement programs and measurement of the rate of compliance each year.

Some of the descriptions of this statutory language provided by third parties have resulted in inaccurate information and confusion among those who are involved in meeting the requirements of this Act.


The key points are as follows:

- 1- Conditions for Acceptance of ARRA funding. All 50 state governors have submitted letters to the Department of Energy, providing assurances that their states would comply with the terms of Section 410. All 50 states have accepted SEP funds that were conditioned on these assurances. Therefore, all 50 states have committed to do three things:

➤ Explanatory Statement on ARRA and Code Adoption



# Advocacy



**HIGH-PERFORMANCE BUILDING CONGRESSIONAL CAUCUS COALITION**  
-www.HPBCCC.org-

**Producing High-Performance Federal Buildings**

As Congress seeks opportunities to invest the energy use of Federal buildings, the Executive Committee of the High-Performance Building Congressional Caucus Coalition ([www.hpbccc.org](http://www.hpbccc.org)) developed the following recommendations which, if implemented through updating energy legislation, will provide an effective transition to reduced energy consumption, enhanced sustainability, improved building operation and maintenance, and more efficient use of national resources in the Federal building stock.

Advancing energy reduction, enhanced sustainability, improved operation and maintenance, and effective use of resources in the Federal building stock requires addressing the diversity of goals associated with high-performance buildings including: sustainability, cost-effectiveness, function and operation, historic preservation, productivity, safety and security, and national identity.

Efforts to enhance the energy and sustainability of Federal buildings must proceed within the context of traditional energy requirements for safeguarding life, health, property, and public welfare. In order to avoid unintended consequences to building user's health and well-being, energy efficiency/sustainability design guidelines and standards recommended for Federal building projects should take into account existing building and fire code requirements, avoid creating conflicts with those requirements, and where necessary, include recommendations for coordinating modifications to such safety-related codes and standards.

**Require New Life-Cycle Analysis and Decision-Making for the Acquisition of Federal Buildings.**

The American Institute of Architects (AIA) defines life-cycle and analysis as, "any technique which allows assessment of a given solution, or choice among alternative solutions, on the basis of secondary of relevant economic consequences over a given period of time." One of the major impediments to innovation and significant reductions in energy consumption in the Federal building stock is the separation of financial accounting for acquisition from operations. That is, there is a congressional approval budget for acquisition and a totally separate budget for yearly operations. Often the responsibilities for these budgets are in two separate organizational elements with different leadership and reporting responsibilities. This means that any investment in innovation that increases first acquisition cost while substantially reducing long-term cost opportunities is not considered. The fundamental dichotomy (caused by parallel operations in internal management and accounting procedures) creates a misalignment between setting the goals for a high-performance building and achieving those goals.

Requiring full life-cycle costs of a building project part of the life-cycle analysis and decision-making processes will provide a major step toward the acquisition of true high-performance Federal buildings.

**Require Initial Building Commissioning for the Federal Building Stock.**

All Federal buildings should be required to utilize total building commissioning, re-commissioning, re-optimization, and post-occupancy-evaluations to include the documentation of owner performance requirements, design intent and justification, verification and validation of actual building performance, including the comprehensive training of operators and maintenance staff through the adoption of ASHRAE Guideline 0-2008 The Commissioning Process. The requirement to include documentation of lessons learned from post-occupancy-evaluations would provide significant momentum in quality control for "green" buildings, including the inclusion of design strategies and documents to improve building performance, the verification of actual building performance, the documentation of design intent to be used by building operators staff, and the development and implementation of a comprehensive training program for operators and maintenance staff.

F:\MFC\BARNARC\BARNARC.XML [Discussion Draft]

[DISCUSSION DRAFT]

111TH CONGRESS  
1ST Session **H. R. \_\_\_\_\_**

To provide for the training of Federal building personnel, and for other purposes.

---

IN THE HOUSE OF REPRESENTATIVES

Mr. CAIN introduced the following bill, which was referred to the Committee on \_\_\_\_\_

---

**A BILL**

To provide for the training of Federal building personnel, and for other purposes.

1 *Be it enacted by the Senate and House of Representatives*  
2 *of the United States of America in Congress assembled,*

3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the "Federal Buildings Personnel Training Act of 2009".

5 SEC. 2. TRAINING OF FEDERAL BUILDING PERSONNEL.

6 (a) IDENTIFICATION OF CORE COMPETENCIES.—Not

7 later than one year after the date of enactment of this

8 Act and annually thereafter, the Administrator of General

9 \_\_\_\_\_

PSNLC\118002\11800261.doc #640749  
November 16, 2009 (5:07 PM)

➤ HPBCCC Report on Federal Building Opportunities

➤ Legislation to Implement Federal Building Recommendations

ASHRAE0024565



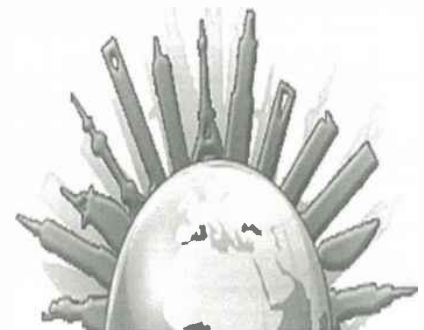
# Advocacy

- **Congress**
  - Building and Efficiency Issues in Stimulus Legislation
  - Depreciation of HVAC&R Equipment
  - Green Jobs Training
  - Building Code Enforcement
  - Climate Change
  - Recommendations on Federal Buildings
- **Agencies**
  - Participate in Interagency Sustainability Working group and IAQ working group
  - Regular meetings with DOE, EPA and GSA
  - GSA meetings on Federal Building Commissioning Guidelines



# Advocacy

- **Hosted Monthly High Performance Building Roundtable Meetings**
- **Participated in Monthly ANSI Caucus Lunches at National Press Club**
- **Engineering R&D Symposium**



ASHRAE0024567

# Legislation



ASHRAE0024568

JA02166



# American Clean Energy and Security Act (H.R. 2454), aka Waxman-Markey

- Sets nat'l building code energy efficiency targets
  - 30% on date of enactment; 50% by January 1, 2015 for commercial
  - Uses ASHRAE 90.1-2004 and IECC 2006 as baselines
- In developing nat'l energy efficiency building code for commercial and residential, USDOE Secretary is to consider ASHRAE standards, IECC, and others
  - DOE shall provide assistance to “recognized consensus-based code development organizations” to facilitate development
- EPA Administrator to establish building energy performance labeling program considering existing programs (Energy Star, HERS Index, DOE Programs)
  - Support development of model labels
  - Utilize incentives to spur use
- Status: Passed House on 6/26/2009 by vote of 219-212

# American Clean Energy Leadership Act (S.1462)

- Introduced by Senator Jeff Bingaman (D-NM)
- Updates nat'l building energy codes & standards at least every 3 years to achieve target energy savings of:
  - 30% for ASHRAE Standards released during or after 2010 (commercial buildings)
  - 50% for ASHRAE standards released during or after 2016
    - A different target year may be set by DOE Secretary if determines target can't be met in 2016
  - If DOE determines ASHRAE's future revised model codes will not meet targets, DOE will propose or establish a modified code or standard that meets the above targets
  - Uses 90.1-2004 as baseline for commercial buildings; IECC 2006 for residential
- Authorizes incentive funds for states that have adopted and is implementing, on a statewide basis, a commercial building code that meets or exceeds ASHRAE 90.1-2007
- Authorizes \$100 million to carry out the above
- Status: Passed by Senate Energy and Natural Resources Committee on 7/16/2009, currently awaiting consideration on Senate floor

# American Power Act

- **Introduced by Senators John Kerry (D-MA) and Joseph Lieberman (ID-CT)**
- **Authorizes federal funds to states for the implementation of:**
  - **Building codes that improve energy efficiency**
  - **Energy-efficient manufactured homes**
  - **Building energy performance labeling**
  - **Low-income community energy efficiency improvements**
  - **Energy efficiency retrofits of existing buildings**
- **Status: Introduced in Senate in June, 2010**

# Practical Energy and Climate Plan (Draft legislation)

- **Proposed by Senator Richard Lugar (R-IN)**
- **Would establish mandatory targets for improved energy efficiency building performance measures for new residential and commercial construction**
  - **The program would work with ASHRAE and other organization in developing codes & standards every 3 years, with the following targets:**
    - **Commercial energy savings: 30% by 2012, and 50% by 2017**
    - **Residential energy savings: 30% by 2012, and 50% by 2015**
- **DOE would partner with state & local gov'ts to achieve the energy saving codes and standards targets, including offering up to a total of \$300 M per year over the next 5 years. If a state is unable to certify compliance w/these target codes & standards, they will be at a disadvantage for receiving further DOE grants**
- **Would require all new federal bldgs entering the design phase in 2012 or later to be designed to exceed nat'l blding performance standards**
- **DOE would establish new nat'l blding retrofit program**

# Federal Buildings Personnel Training Act (H.R.5112/S.3250)

- Introduced by Representatives Carnahan (D-MO), Biggert (R-IL), and Norton (D-DC), and Senators Carper (D-DE) and Collins (R-ME)
- Requires the General Service Administration (GSA) to identify the core competencies necessary for federal personnel performing building operations and maintenance, energy management, sustainability, water efficiency, safety, and building performance measures
- Requires the GSA to work with relevant professional societies, industry associations, and others to develop a recommended curriculum relating to facility management and the operation of high-performance buildings
- Requires GSA to work with relevant professional societies, industry associations, and others to develop a course, certification, degree, license, or registration to demonstrate each core competency, and for ongoing training
- Requires relevant federal personnel to demonstrate competency in the core areas through certification, licensure, etc.
- Requirements of this bill would apply to non-federal personal performing building operations and maintenance, energy management, safety, and design functions under a contract with a federal department or agency





# High-Performance Building Congressional Caucus

## Co-Chairs

Russ Carnahan (D-MO)

Judy Biggert (R-IL)

## Members

- |                           |                         |
|---------------------------|-------------------------|
| Tammy Baldwin (D-WI)      | Doris Matsui (D-CA)     |
| Earl Blumenauer (D-OR)    | Betty McCollum (D-MN)   |
| Robert Brady (D-PA)       | Jim McDermott (D-WA)    |
| Ben Chandler (D-KY)       | Mike McIntyre (D-NC)    |
| Mike Doyle (D-PA)         | Jerry McNerney (D-CA)   |
| David Dreier (R-CA)       | Ed Perlmutter (D-CO)    |
| Vernon Ehlers (R-MI)      | Todd Platts (R-PA)      |
| Bill Foster (D-IL)        | Allyson Schwartz (D-PA) |
| Gabrielle Giffords (D-AZ) | Joe Sestak (D-PA)       |
| Debbie Halvorson (D-IL)   | Edolphus Towns (D-NY)   |
| Paul Hodes (D-NH)         | David Wu (D-OR)         |
| Jay Inslee (D-WA)         |                         |
| Steve Kagen (D-WI)        |                         |
| Dennis Kucinich (D-OH)    |                         |
| Dan Lipinski (D-IL)       |                         |
| Dave Loebsack (D-IA)      |                         |
| Zoe Lofgren (D-CA)        |                         |

## Supporting Coalition Includes



<http://www.hpbcc.org>

ASHRAE0024575





# Advocacy

## ➤ Development of letters, comments & testimony to Congress and Agencies on pending actions

- ARRA and Code Adoptions
- STEM Education
- Commercial Building Tax Deduction
- EIA Funding
- Depreciation of HVAC&R Equipment
- Setting Commercial Equipment Efficiency Standards
- Building Codes
- Federal Building Efficiency Standards
- Smart Grid Interoperability Standards
- School Modernization





# Advocacy Tools

- **One-page non-technical policy briefs/leave-behinds**
  - Based on existing ASHRAE Position Statements
  - Developed through Advocacy Committee with technical review and approval by ExCom
    - Energy Efficiency
    - Climate Change
    - STEM Education
    - Federal R&D Funding
    - Standards
    - Building Energy Data



# Advocacy Tools

- **Government Affairs Updates**
  - Bi-weekly e-mails featuring government activities of interest
  - Sign up at <http://www.ashrae.org/advocacy>
- **Advocacy Packets**
  - Additional licensure requirements
  - State TTAA
  - Building Codes
  - Stimulus Funds ([www.ashrae.org/recovery](http://www.ashrae.org/recovery))
  - Building Energy Labeling



# Advocacy Tools

## ➤ Chapter Public Policy Materials

### ➤ CTTC/Washington Office Primer on Government Activities

- Accompanying PowerPoint Presentation

### ➤ Advocacy Toolkit

- <http://www.ashrae.org/advocacy/page/1262>

## ➤ Government Affairs Brochure

### ➤ Activities of the ASHRAE Washington Office

- Available as PDF for distribution to chapter members



ASHRAE0024579



# Opportunities for Individual Member Participation

- SET Working Group Congressional Visits Day
- Engineering R&D Symposium
- ASHRAE Congressional Briefings
- Forthcoming programs
  - Washington Visitation Program
  - CTTC Chair training programs
- HPBCCC Congressional Visits Days
- Washington Fellowship
- WISE Program



# Additional Washington Office Activities

- Building Energy Quotient Program
  - [www.buildingeq.com](http://www.buildingeq.com)
- Building Code Adoptions
  - Standard 90.1
  - Standard 189.1/IGCC Promotion
- Empowering Chapters to Engage State and Local Policymakers





# Opportunities for Individual Member Participation

- Contact State and Local Policymakers on Important Issues
  - Building Energy Codes
  - NCEES Masters or Equivalent
  - Stimulus Funds
  - Building Energy Disclosure
  - Use of Voluntary Consensus Standards



# ASHRAE/DOE Fellowship

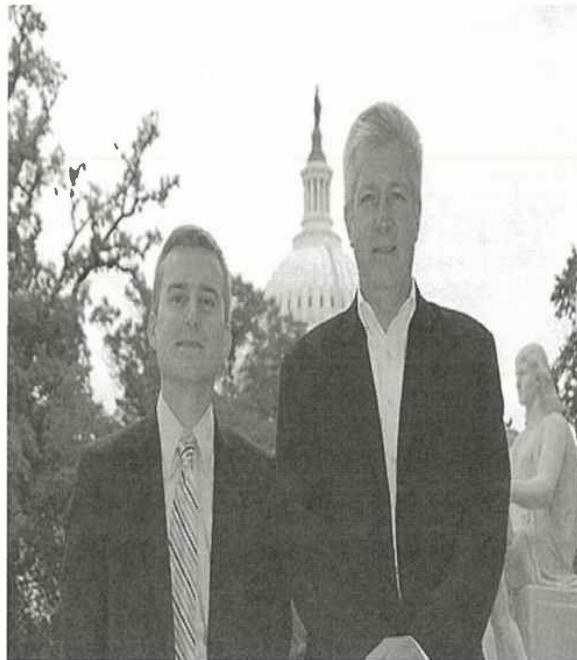


- **2008-2010 Fellow Mike Erbesfeld began in Sen. Dianne Feinstein's Office, moved to DOE in May 2009**
- **Currently seeking fellows for placement at DOE on codes issues**
- **Funding provided by DOE**



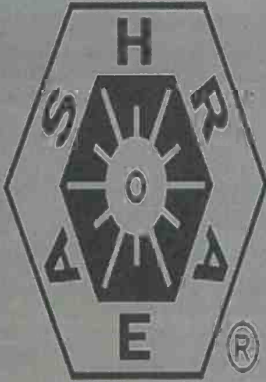
# Internship

- **Washington Internship for Students of Engineering (WISE)**
  - Summer Internship in Washington, DC for third year engineering students
  - Explore nexus of engineering and public policy
  - Lodging and stipend included
- **Summer 2010 intern, Ramsey Brown, CMA**



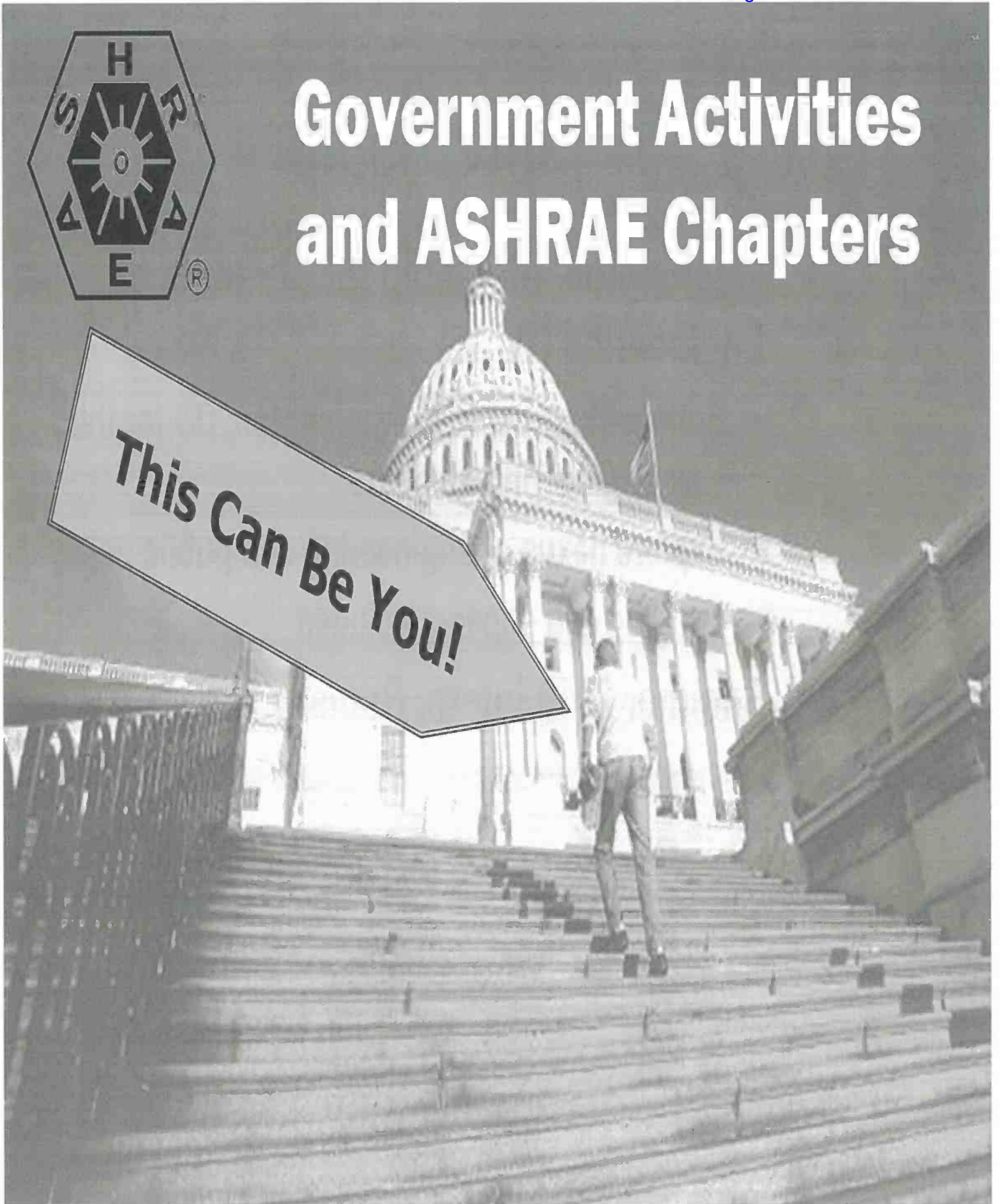
ASHRAE0024584





# Government Activities and ASHRAE Chapters

**This Can Be You!**



ASHRAE0024585



# Government Relations Activities

- **Build relationships with government officials interested in the built environment**
- **Establish ASHRAE as a source for unbiased, technical expertise**
  - **White House Office of Science & Technology Policy (OSTP)**
  - **Department of Energy (DOE)**
  - **Environmental Protection Agency (EPA)**
  - **General Services Administration (GSA)**
  - **U.S. Congress**
  - **NIST/FERC—Smart Grid/Demand Response**



# Advocacy Priorities

- Energy Efficiency
- Climate Change
- Indoor Environmental Quality
- Water Conservation
- STEM Education/Competitiveness



# Anticipated Issues

- Energy Efficiency
  - Incentives (tax deductions/credits, depreciation)
  - Continued focus on Building Codes language
  - R&D in needed technologies
  - RPS with efficiency component
  - Building energy disclosure
- Climate Change
  - More cap-and-trade legislation with a little more potential
- Economy
  - Opportunities for buildings



# What's Planned for the Remainder of 2010?

- Increase ASHRAE member participation and interest in public policy
- Continue enhancement of ASHRAE Government Affairs webpage (<http://www.ashrae.org/advocacy>)
- Recruit and place DOE Fellows
- Recruit 2011 WISE Intern
- Develop marketing materials for ASHRAE Government Relations Activities
- Continue participation in relevant coalitions and input to public policy
- Expand ASHRAE's role at the State and local levels

# **EXHIBIT 53**

## **(FILED UNDER SEAL)**

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 83 of 97

# **EXHIBIT 54**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1233  
4-1-15  
PENGAD 800-831-5888

PROPOSAL FOR 1999 NATIONAL ELECTRICAL CODE

Log No. 118-1  
Date Rec'd.

Date: 9-25-95 Name: Peter J. Schram Tel. No. 617/848-9677

Company: (None)

Street Address: 12 Royal Lake Dr. City: Braintree State: MA Zip: 02184

Organization Represented: (None)

SEP 26 1995

1. Section: 760-7

2. Proposal recommends: ( ) new text ( X ) revised text ( ) deleted text

3. Proposal:

Revise Section 760-7 to read as follows:

**760-7. Fire Alarm Circuits Extending Beyond One Building.** Power-limited fire alarm circuits that extend beyond one building and run outdoors shall either meet the requirements of Article 800 and be classified as communications circuits or shall meet the requirements of Article 225. Nonpower-limited fire alarm circuits that extend beyond one building and run outdoors shall meet the requirements of Article 225.

4. Statement of Problem and Substantiation for Proposal:

See attached.

5. ( X ) This Proposal is original material

I hereby grant the NFPA the nonexclusive, royalty-free rights, including nonexclusive, royalty-free 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.

*Peter J. Schram*

ADS011129



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CLEAR THAN THIS NOTICE  
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OF THE DOCUMENT

SUBSTANTIATION FOR PETER J. SCHRAM PROPOSAL ON SEC. 760-7

118-2

The present requirements permit an electric shock hazard to exist in installations of nonpower-limited fire alarm circuits installed outdoors under the requirements of Article 800. For example, a 600-volt fire alarm circuit can be run outdoors on poles with no requirements as to height above ground or conductor or cable insulation.

This situation has existed since Article 760 first appeared in the 1975 edition of the Code. See Section 760-5 in that edition. However, in the 1971 edition of the Code, Section 725-43, on which Section 760-5 of the 1975 Code was based, permitted installation in accordance with Article 800 only for Class 2 circuits.

In the "Preprint" of the Proposed Amendments for the 1974 NEC, Part II", the limited energy concept of the 1971 NEC was continued by the following wording for proposed new Section 760-5(a) [See Page 304 of NFPA No. 70 PR74B].

"Wiring circuits reserved solely for fire-protective signaling services and complying with the requirements of Article 800 for communication circuits are acceptable for outside wiring. Circuits shall be deemed to comply with Article 800, and Section 800-1 in particular, if they carry limited energy similar to those of telephone, telegraph (except radio) circuits in common used by public or private companies. Wiring for circuits not meeting these requirements and intended to be installed outdoors shall meet the appropriate Sections of Article 730 (225)."

The Code-Making Panel held the entire proposed Article 760 on the docket and assigned it to an ad hoc committee. The result was that the limited energy concept of the 1971 NEC and proposed new Article 760 for the 1974 (1975) NEC was lost.

This proposal is intended to reinstate the original requirement, and eliminate the potential for an electric shock hazard inherent in the present Code wording. The words "and run outdoors" have been added because a circuit can run between "buildings", through a firewall for example, and not be outdoors. See the NEC definition of a building.

ADS011130

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 86 of 97

# **EXHIBIT 55**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1234  
4-1-15  
PENGAD 800-681-0889

1999 National Electrical Code Proposal  
LOG #

Date Rec'd

AUG 2 1996

Date: 8/7/96 Name: Roger L. Sandstedt Tel. No. (314) 965-6961  
Company: Cable Tray Institute  
Street Address: 12982 Humthridge Forest Dr. City: St. Louis State: MO. Zip: 63131  
Organizational Represented: Cable Tray Institute

#829

- 1. Section/Paragraph: Section 300-22(c).
- 2. Proposal Recommends  new text  revised text  delete text
- 3. Proposal:

Add the following paragraph between the present second and third paragraphs:

Cables that are supported in ladder cable trays, ventilated trough cable trays, ventilated channel cable trays or solid bottom cable trays shall be wiring methods consisting of Type MI cables, Type MC cables without an overall non-metallic covering, Types AC cables or other factory assembled multiconductor control, power or signal cables that are specifically listed for the use: Type PLTC cables (Article 725), Type ITC Cables (article 727), Fire Protective Signaling Cables (Article 760), Optical Fiber Cables (Article 770), and Communication & Multipurpose Cables (Article 800) which are listed as plenum cables with adequate fire-resistance characteristics and low-smoke producing characteristics.

4. Statement of Problem and Substantiation for Proposal:

All the acceptable wiring methods for " Other Spaces Used for Environmental Air " should be identified in Section 300-22(c). The high volume wiring methods required by today's technology that are allowed to be installed in Section 300-22(c) locations are not specifically identified in this section. The acceptance of this proposal will remove the high degree of confusion that now exist about the wiring methods for Section 300-22(c) locations. All the wiring methods in the proposed paragraph are as per the 1996 NEC. The material in the proposed paragraph is distributed throughout the NEC. It should be presented in a concentrated form in Section 300-22(c).

These wiring methods are being used in high volume and their use will increase in the future. Section 300-22(c) should be specific about its allowable wiring methods. This makes for a more user friendly NEC.

- 5.  This proposal is original material.
- This proposal is not original material, it source is as follows:

I hereby grant the NAPA the nonexclusive, royalty-free rights, including non-exclusive, royalty 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 analogous form is used.

*Roger L. Sandstedt*

ADS007088

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 88 of 97

# **EXHIBIT 56**

CLEAR THAN THIS NOTICE  
IT IS DUE TO THE QUALITY

PERGAD 800-851-6889

EXHIBIT

1235

4-1-15 CA

Proposal for the 1999 National Electrical Code®

NOV 08 1996

3508

Log # \_\_\_\_\_ Date Received \_\_\_\_\_ (Office Use Only)

Date: 11/7/96 Name: Joseph A. Tedesco Telephone 6175237137

Address: 350 North St. City Boston State MA Zip 02113

- 1. Section/Paragraph 424-43 (a)
- 2. Proposal recommends:        New Text  Revised Text        Deleted Text
- 3. Proposal (include proposed new wording or identification of wording to be deleted):

Change "UF" to "UF-B" and  
"NM" to "NM-B"

4. Substantiation:

See my proposals to make  
these changes in Articles 336  
and 339. This information is in  
Line with UL, and Section 336-30 (b) (FPN).

5.  This Proposal is original material

\_\_\_\_\_ This Proposal is not original material, its source (if known) is as follows:

Note: Original material is considered to be the submitter's own idea based on or a result of his/her own experience, thought, or research and, to the best of his/her knowledge, is not copied from another source. I agree to give NFPA royalty-free rights, including non-exclusive royalty-free rights in copyright in this proposal and I understand that I acquire no rights in any publication of NFPA in which this proposal or another similar analogous form is used.

Signature (Required)

Joseph A. Tedesco

Mail to: Secretary Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269

ADS001673

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 90 of 97

# **EXHIBIT 57**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1236  
4-1-15

METHOD OF SUBMITTING A PROPOSAL 70-1069

FORM FOR PROPOSALS FOR 1999 NATIONAL ELECTRICAL CODE®

INSTRUCTIONS PLEASE READ CAREFULLY  
Type or print 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., E.S.T., Friday November 8, 1996 to be considered for the 1999 National Electrical Code. Proposals received after 5:00 p.m., E.S.T., Friday, November 8, 1996 will be returned to the submitter.

LOG#  
Date Rec'd: 107  
Office Use Only  
NOV 22 1995

Date: 11/7/95 Name: Victor V. Timpanaro - President Tel. No: 908-360-1991

Company:  
Street Address: 1-78 Pinetree Blvd City: Old Bridge State: N.J. Zip: 08857-5915

Please Indicate Organization Represented (if any): Municipal Electrical Inspectors Ass'n of N.J.

1. Section/Paragraph: 210-63

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

3. Proposal (include proposed new wording, or identification of wording to be deleted):

~~REVISE~~ THE FOLLOWING TO LAST SENTENCE.  
The receptacle outlet shall NOT BE CONNECTED TO THE SUPPLY WIRING FOR THE HVAC EQUIPMENT IN THE LINE OR LOAD SIDE OF THE DISCONNECTING MEANS.

4. Statement of Problem and Substantiation, for Proposal:

This clarifies to the installer that it was NOT the intent of the submitter to permit tap conduct on line side of disconnecting means to supply the receptacle outlet but rather to require

5.  This Proposal is original material supply from other than HVAC EKT.  
 This Proposal is not original material, its source (if known) is as follow:

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.

I hereby grant the NFPA the nonexclusive, royalty-free rights, including non-exclusive, royalty-free 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.

Victor V. Timpanaro  
Signature (Required)

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101 Quincy, MA 02269 or FAX to 617-770-3500

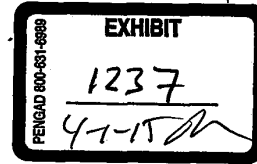
ADS011112

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 92 of 97

# **EXHIBIT 58**



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.



FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS

Mail to: Secretary, Standards Council National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101 Fax No. 617-770-3500

Note: All proposals must be received by 5:00 p.m. EST/EDST on the published proposal-closing date.

If you need further information on the standards-making process, please contact the Standards Administration Department at 617-984-7249.

Date 12-10-95 Name Joseph A. Tedesco Tel. No. 6175237137

Company

Street Address 350 NORTH STREET BOSTON MA 02113

Please Indicate Organization Represented (if any)

1. a) NFPA Document Title NEC NFPA No. & Year 70-1996

b) Section/Paragraph Article 100 "LUMINAIRE" (New)

2. Proposal Recommends: (Check one) [X] new text [ ] revised text [ ] deleted text

FOR OFFICE USE ONLY Log # 125 Date Rec'd DEC 26 1995

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

LUMINAIRE (Lighting Fixture): A complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply.

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 including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

See Section 410-1. The terms "lighting fixture" and "lighting fixtures" are used in over 128 locations in the 1996 National Electrical Code. See Sections 517-33\* and 517-43\* where "luminaires" is used also.

5. [X] 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.)

[X] This Proposal is not original material; its source (if known) is as follows: Sec 410-1 70-1996

Note 1: Type or print legibly in black ink. Note 2: 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.

I hereby grant NFPA the non-exclusive, royalty-free rights, including non-exclusive, royalty-free 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) Joseph A. Tedesco

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 94 of 97

# **EXHIBIT 59**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1238  
4-1-15

METHOD OF SUBMITTING A PROPOSAL

70-1069

FORM FOR PROPOSALS FOR 1999 NATIONAL ELECTRICAL CODE®

**INSTRUCTIONS PLEASE READ CAREFULLY**  
Type or print 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., E.S.T., Friday November 8, 1996 to be considered for the 1999 National Electrical Code. Proposals received after 5:00 p.m., E.S.T., Friday, November 8, 1996 will be returned to the submitter.

LOG# 229  
Date Rec'd:  
Office Use Only

JAN 17 1996

Date: 1/5/96 Name: Steve Young Tel. No. (402) 467-7632

Company: Lincoln Electric System

Street Address: 2620 Fairfield St. City: Lincoln State: NE Zip: 68521

Please indicate Organization Represented (if any):

1. Section/Paragraph: 1996 NEC Article 90 Paragraph 90-2(b)(6) (New)

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

Add new 90-2(b)(6) to read as follows:

3. Proposal (include proposed new wording, or identification of wording to be deleted):  
(6) installations of highway, street and area lighting and traffic signals including associated wiring, under the exclusive control of electric utilities or entity authorized by local government.

4. Statement of Problem and Substantiation for Proposal:  
Such installations are designed, installed and maintained by competent personnel. In most areas of the country, street lighting and traffic signals are provided by the local utility or a government agency. There has been no substantial proof of hazards to the public of ill-wired street lighting systems. The National Electrical Safety Code (NESC) addresses street lighting in better detail than the National Electrical Code (NEC).

5.  This Proposal is original material  
 This Proposal is not original material, its source (if known) is as follow:

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.

I hereby grant the NFPA the nonexclusive, royalty-free rights, including non-exclusive, royalty-free 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)  
*Steve Young*

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101 Quincy, MA 02269 or FAX to 617-770-3500

ADS011264

Case 1:13-cv-01215-TSC Document 122-4 Filed 12/22/15 Page 96 of 97

# **EXHIBIT 60**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1239  
4-1-TON

FORM FOR PROPOSALS FOR 1999 NATIONAL ELECTRICAL

INSTRUCTIONS PLEASE READ CAREFULLY  
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Limit each proposal to a SINGLE section. All proposals must be received by NEPA by 5 p.m. E. S. T., Friday November 8, 1996 to be considered for the 1999 National Electrical Code. Proposals received after 5 p.m., E. S. T., Friday, November 8, 1996 will be returned to the submitter.

LOG# 245  
Date Rec'd JAN 29 1996

Office Use Only

Date 1/20/96 Name Arlyn McCulloch Tel. No. 208-331-5665

Company IBEW Local 449

Street Address 6676 GILBERT City BOISE State ID Zip 83712

Please Indicate Organization Represented (If Any)

1. Section/Paragraph Grounding in all Articles

2. Proposal recommends (Check One) [ ] new text [X] revised text [ ] deleted text

3. Proposal (include proposed new wording, or identification of wording to be deleted)

Rewrite grounding in all Articles of the NEC to one Article

4. Statement of Problem and substantiation for Proposal

5. [X] This Proposal is original material  
[ ] This Proposal is not original material, its source (if known) is as follows:

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.

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Arlyn C. McCulloch  
Signature (Required)

Mail To: Secretary, Standards Council  
National Fire Protection Association  
1 Batterymarch Park  
P O Box 9101  
Quincy, MA 02269  
Fax: 617-770-3500

ADS011280

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 1 of 92

# EXHIBIT 61

EXHIBIT  
1240  
4-1-15

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

OCT-21-1996 10:33 A I W 1 481 723 3588 P.02/03  
FORM FOR PROPOSALS FOR 1999 NATIONAL ELECTRICAL CODE

**INSTRUCTIONS PLEASE READ CAREFULLY**  
Type or print 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., E.S.T., Friday November 8, 1996 to be considered for the 1999 National Electrical Code. Proposals received after 5:00 p.m., E.S.T., Friday, November 8, 1996 will be returned to the submitter.

LOG # 1000-1  
Date Rec'd:  
Office Use Only

OCT 21 1996

Date: 10/18/96 Name: Paul Petit Tel. No. 1-401-726-0700 EX.330

Company American Insulated Wire Corp.

Street Address: F.O. Box 880 City: Pawtucket State: RI Zip: 02862

Please Indicate Organization Represented (if any): N/A

1. Section/Paragraph: Section 310 Table 310-13

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

3. Proposal (include proposed new wording, or identification of wording to be deleted):  
For types USE and USE-2 include size 14 AWG as the smallest size to be made.  
(See attached table with recommended change)

*in the table*  
No  
No-SM

4. Statement of Problem and Substantiation for Proposal:

We have had numerous requests for 14 AWG type USE over the years especially for type USE exposed to sunlight. The black thermosets type USE performs better than the black PVC type UF cables. Type USE and type USE-2 cables are suitable for direct burial but limited to 12 AWG as the smallest size, yet underground feeder cables are also suitable for direct burial and are allowed as small as 14 AWG. Therefore, 14 AWG types USE and USE-2 cables should also be allowed as a new code size.

5. This Proposal is original material

This Proposal is not original material, its source (if known) is as follow:

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.

I hereby grant the NFPA the nonexclusive, royalty-free rights, including non-exclusive, royalty-free 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.

*Paul Petit*  
Signature (Required)

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101  
Quincy, MA 02269 or FAX to 617-770-3500

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 3 of 92

# **EXHIBIT 62**



EXHIBIT  
1241  
4-1-15

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

10/23/96 15:26 16179847070 NFPA NEC 002

FORM FOR PROPOSALS FOR 1999 NATIONAL ELECTRICAL CODE

INSTRUCTIONS PLEASE READ CAREFULLY  
Type or print 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., E.S.T., Friday November 8, 1996 to be considered for the 1999 National Electrical Code. Proposals received after 5:00 p.m., E.S.T., Friday, November 8, 1996 will be returned to the submitter.

LOG# 1626  
Date Rec'd: NOV 05 1996  
Office Use Only

Date: 11-1-96 Name: ART PETRUZATES Tel. No: (316) 942-8223  
Company: IDEAL PRODUCTS INC. P.O. BOX 17227  
Street Address: 2520 S. SHERIDAN City: WICHITA State: KS Zip: 67217  
Please Indicate Organization Represented (if any):

1. Section/Paragraph: 370-16 (c) EXCEPTION NO. 1

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

3. Proposal (include proposed new wording, or identification of wording to be deleted):  
Where PLASTER RINGS of the VARIABLE TYPE ARE USED, and adjusted to a greater depth than the minimum setting, it shall be permissible for the authority having jurisdiction to allow a volume calculation that is equal to the volume of a plaster ring of equal or equivalent depth.

4. Statement of Problem and Substantiation for Proposal:  
Currently, the UL listed volume of PLASTER RINGS of the adjustable type is that of the ring at its minimum setting. This does not allow the electrician to take advantage of the increased volume which occurs when the ring is extended to a greater depth. (at least 80% increase in many cases) This proposal would allow the authority having jurisdiction to allow the use of this extra volume. By allowing the authority to compare the adjustable ring volume to a fixed ring volume, it is simple to calculate the allowable volume.

5.  This Proposal is original material  
 This Proposal is not original material, its source (if known) is as follows:

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.

I hereby grant the NFPA the nonexclusive, royalty-free rights, including non-exclusive, royalty-free right 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.

A. Petruzates  
Signature (Required)

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Bo : 9101  
Quincy, MA 02269 or FAX to 617-770-3500

ADS008689

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 5 of 92

# **EXHIBIT 63**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

PENGAD 800-831-8868  
EXHIBIT  
1243  
41-1502

FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS  
NOV 06 1995

DATE: 10/31/95 NAME: Thomas F. Pegg PHONE: (412)645-8583

ADDRESS: 333 Forbes Avenue Pittsburgh, PA 15222

#108

REPRESENTING: HILB, ROGAL AND HAMILTON COMPANY OF PITTSBURGH, INC.

1a. Document Title: National Electric Code NFPA No. & Yr.: 70-1993

2. Proposal Recommends: New Text

3. Proposal:

Add to 210-8. Ground-Fault Circuit-  
Interrupter Protection for Personnel  
B. Receptacles (1)  
Add language: That all outdoor outlets be  
protected by Ground-Fault Protection.

4. Statement of Problem and Substantiation for Proposal:

We believe the code is ambiguous in where GFI outlets are needed or should be provided.

We have a client who is a major distributor of vending machines. They are frequently required to provide vending machines for outdoor use. It would seem logical to have these outdoor receptacles protected by GFI's.

5. This proposal is original material.

I hereby grant NFPA the non-exclusive, royalty free rights, including non-exclusives royalty-free rights in copyright, in the 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.

*Thomas F. Pegg*  
Thomas F. Pegg

ADS011118

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 7 of 92

# **EXHIBIT 64**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1244  
4-1-150

FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS

Mail to: Secretary, Standards Council  
National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101  
Fax No. 617-770-3500

Note: All proposals must be received by 5:00 p.m. EST/EDST on the published proposal-closing date.

If you need further information on the standards-making process, please contact the Standards Administration Department at 617-984-7249.

Date 12-10-95 Name Joseph A. Tedesco Tel. No. 6175237137

Company \_\_\_\_\_

Street Address 350 North Street Boston, MA 02113

Please Indicate Organization Represented (if any) \_\_\_\_\_

1. a) NFPA Document Title NEC NFPA No. & Year 70-1996

b) Section/Paragraph 110-34 (c)

- 2. Proposal Recommends: (Check one)  new text
- revised text
- deleted text

FOR OFFICE USE ONLY

Log # 131

Date Rec'd DEC 26 1995

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

Please delete the word: "substantially" so the 3rd paragraph will read as follows: "Where the voltage exceeds 600 volts, nominal, permanent and conspicuous warning signs shall be provided reading as follows: "DANGER--HIGH VOLTAGE--KEEP OUT!"

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 including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

Sections 230-203, 370-72(e), 665-23, 710-43 and 710-45 do not use the word "substantially" and are specific.

- 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: \_\_\_\_\_

Note 1: Type or print legibly in black ink.  
Note 2: 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.

I hereby grant NFPA the non-exclusive, royalty-free rights, including non-exclusive, royalty-free 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.

Joseph A. Tedesco  
Signature (Required)

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 9 of 92

# **EXHIBIT 65**

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EXHIBIT  
1245  
4-1-15/2  
PENAGAD 800-651-6888

FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS

Mail to: Secretary, Standards Council  
National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101  
Fax No. 617-770-3500

Note: All proposals must be received by 5:00 p.m. E.S.T./E.D.S.T. on the published proposal closing date.

Date 12/14/95 Name Stan Kaufman Tel. No. 770-798-2833

Address: AT&T, 2000 Northeast Expressway, Room 2G44, Norcross, GA 30071

Representing (Please indicate organization, company or self)

1. a) Document Title: National Electrical Code NFPA No. & Year 70, 1999

b) Section/Paragraph: 725-61 (f)

2. Proposal recommends: (Check one)  deleted text

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

Delete the words "wire or" from section 725-61 (f) to read as follows:

Type CL2 or CL3 cable shall be used.

4. Statement of Problem and Substantiation for Proposal:

Wire is not defined in this article.

5. This Proposal is not original material; its source (if known) is as follows:

725-61 (f)

*I hereby grant NFPA the non-exclusive, royalty-free rights, including non-exclusive, royalty-free 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.*

*Stan Kaufman*  
Signature (Required)

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL

FOR OFFICE USE ONLY  
Log #: 265  
Date Rec'd: \_\_\_\_\_  
Proposal #: \_\_\_\_\_

DEC 28 1995

F725-61PDOC

ADS011232

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 11 of 92

# **EXHIBIT 66**



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1246  
4150

FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS

Mail to: Secretary, Standards Council  
National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101  
Fax No. 617-770-3500

Note: All proposals must be received by 5:00 p.m. EST/E.D.S.T. on the published proposal closing date.

Date 12/18/95 Name Stan Kaufman Tel. No. 770-798-2833

Address: AT&T, 2000 Northeast Expressway, Room 2G44, Norcross, GA 30071

Representing (Please indicate organization, company or self)

1. a) Document Title: National Electrical Code NFPA No. & Year 70, 1999

b) Section/Paragraph: 800-52 (a)

2. Proposal recommends: (Check one) new text

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

FOR OFFICE USE ONLY  
Log #: 227  
Date Rec'd: DEC 28 1995  
Proposal #:

Reword section 800-52 (a) as shown below.

800-52. Installation of Communications Wires, Cables, and Equipment.

Communications wires and cables from the protector to the equipment or, where no protector is required, communications wires and cables attached to the outside or inside of the building shall comply with (a) through (e) below.

(a) Separation from Other Conductors.

(1) In Raceways, Boxes, and Cables.

a. Other Power-Limited Circuits. Communications cables shall be permitted in the same raceway or enclosure with cables of any of the following:

- 1. Class 2 and Class 3 remote-control, signaling, and power-limited circuits in compliance with Article 725.
- 2. Power-limited fire alarm systems in compliance with Article 760.
- 3. Nonconductive and conductive optical fiber cables in compliance with Article 770.
- 4. Community antenna television and radio distribution systems in compliance with Article 820.

b. Class 2 and Class 3 Circuits. Class 1 circuits shall not be run in the same cable with communications circuits. Class 2 and Class 3 circuit conductors shall be permitted in the same cable with communications circuits, in which case the Class 2 and Class 3 circuits shall be classified as communications circuits and shall meet the requirements of this article. The cables shall be listed as communications cables or multipurpose cables.

PH0052A.DOC

ADS011250

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*Exception: Cables constructed of individually listed Class 2, Class 3, and communications cables under a common jacket shall not be required to be classified as communications cable. The fire-resistance rating of the composite cable shall be determined by the performance of the composite cable.*

**c. Electric Light, ~~or~~ Power, Class 1 and Nonpower-limited Fire Alarm Circuits.**

**1. In Raceways, Compartments and Boxes.** Communications conductors shall not be placed in any raceway, compartment, outlet box, junction box, or similar fitting with conductors of electric light, ~~or~~ power, Class 1, or nonpower-limited fire alarm circuits.

*Exception No. 1: Where all of the conductors of electric light, ~~or~~ power, Class 1, and or nonpower-limited fire alarm circuits are separated from all of the conductors of communications circuits by a barrier.*

*Exception No. 2: ~~Electric light, or power, Class 1, and or nonpower-limited fire alarm circuit conductors in outlet boxes, junction boxes, or similar fittings or compartments where such conductors are introduced solely for power supply to communications equipment, or for connection to remote-control equipment. The electric light or power circuit conductors shall be routed within the enclosure to maintain a minimum of 0.25 in. (6.35 mm) separation from the communications circuit conductors.~~*

**2. In Shafts.** Communications wires and cables run in the same shaft with conductors of electric light, ~~or~~ power, Class 1, or nonpower-limited fire alarm circuits shall be separated from electric light, ~~or~~ power conductors, Class 1, and or nonpower-limited fire alarm circuit conductors by not less than 2 in. (50.8 mm).

*Exception No. 1: Where either (1) all of the conductors of the electric light, ~~or~~ power, Class 1, and or nonpower-limited fire alarm circuits are in a raceway, or in metal-sheathed, metal-clad, nonmetallic-sheathed, or Type UF cables, or (2) all of the conductors of communications circuits are encased in raceway.*

*~~Exception No. 2: Where the electric light or power, Class 1 or nonpower-limited fire alarm conductors are in a raceway, or in metal-sheathed, metal-clad, nonmetallic-sheathed, or Type UF cables.~~*

**(2) Other Applications.** Communications wires and cables shall be separated at least 2 in. (50.8 mm) from conductors of any electric light, ~~or~~ power circuits, Class 1, and or nonpower-limited fire alarm circuits.

*Exception No. 1: Where either (1) all of the conductors of the electric light, ~~or~~ power, Class 1, and or nonpower-limited fire alarm circuits ~~conductors~~ are in a raceway or in metal-sheathed, metal-clad, nonmetallic-sheathed, Type AC, or Type UF cables, or (2) all of the conductors of communications circuits are encased in raceway.*

*Exception No. 2: Where the communications wires and cables are permanently separated from the conductors of electric light, power, Class 1, and nonpower-limited fire alarm circuits ~~the other circuit~~ by a continuous and firmly fixed nonconductor, such as porcelain tubes or flexible tubing, in addition to the insulation on the wire.*

P80052A.DOC

ADS011251

JA02216

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If all the above marked revisions are accepted, section 800-52 will read as follows:

222-3

**800-52. Installation of Communications Wires, Cables, and Equipment.**

Communications wires and cables from the protector to the equipment or, where no protector is required, communications wires and cables attached to the outside or inside of the building shall comply with (a) through (e) below.

**(a) Separation from Other Conductors.**

**(1) In Raceways, Boxes, and Cables.**

**a. Other Power-Limited Circuits.** Communications cables shall be permitted in the same raceway or enclosure with cables of any of the following:

1. Class 2 and Class 3 remote-control, signaling, and power-limited circuits in compliance with Article 725.
2. Power-limited fire alarm systems in compliance with Article 760.
3. Nonconductive and conductive optical fiber cables in compliance with Article 770.
4. Community antenna television and radio distribution systems in compliance with Article 820.

**b. Class 2 and Class 3 Circuits.** Class 1 circuits shall not be run in the same cable with communications circuits. Class 2 and Class 3 circuit conductors shall be permitted in the same cable with communications circuits, in which case the Class 2 and Class 3 circuits shall be classified as communications circuits and shall meet the requirements of this article. The cables shall be listed as communications or multipurpose cables.

*Exception: Cables constructed of individually listed Class 2, Class 3, and communications cables under a common jacket shall not be required to be classified as communications cable. The fire-resistance rating of the composite cable shall be determined by the performance of the composite cable.*

**c. Electric Light, Power, Class 1 and Nonpower-limited Fire Alarm Circuits.**

**1. Raceways, Compartments and Boxes.** Communications conductors shall not be placed in any raceway, compartment, outlet box, junction box, or similar fitting with conductors of electric light, power, Class 1, or nonpower-limited fire alarm circuits.

*Exception No. 1: Where all of the conductors of electric light, power, Class 1, and nonpower-limited fire alarm circuits are separated from all of the conductors of communications circuits by a barrier.*

*Exception No. 2: Power circuit conductors in outlet boxes, junction boxes, or similar fittings or compartments where such conductors are introduced solely for power supply to communications equipment. The power circuit conductors shall be routed within the enclosure to maintain a minimum of 0.25 in. (6.35 mm) separation from the communications circuit conductors.*

P80052A.DOC

ADS011252

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**2. In Shafts.** Communications wires and cables run in the same shaft with conductors of electric light, power, Class 1, or nonpower-limited fire alarm circuits shall be separated from electric light, power, Class 1, and nonpower-limited fire alarm circuit conductors by not less than 2 in. (50.8 mm). 222-4

*Exception: Where either (1) all of the conductors of electric light, power, Class 1, and nonpower-limited fire alarm circuits are in a raceway, or in metal-sheathed, metal-clad, nonmetallic-sheathed, or Type UF cables, or (2) all of the conductors of communications circuits are encased in raceway.*

**(2) Other Applications.** Communications wires and cables shall be separated at least 2 in. (50.8 mm) from conductors of any electric light, power, Class 1, and nonpower-limited fire alarm circuits:

*Exception No. 1: Where either (1) all of the conductors of electric light, power, Class 1, and nonpower-limited fire alarm circuits are in a raceway or in metal-sheathed, metal-clad, nonmetallic-sheathed, Type AC, or Type UF cables, or (2) all of the conductors of communications circuits are encased in raceway.*

*Exception No. 2: Where the communications wires and cables are permanently separated from the conductors of electric light, power, Class 1, and nonpower-limited fire alarm circuits by a continuous and firmly fixed nonconductor, such as porcelain tubes or flexible tubing, in addition to the insulation on the wire.*

**(b) Spread of Fire or Products of Combustion.** Installations in hollow spaces, vertical shafts, and ventilation or air-handling ducts shall be so made that the possible spread of fire or products of combustion will not be substantially increased. Openings around penetrations through fire resistance-rated walls, partitions, floors, or ceilings shall be firestopped using approved methods.

**(c) Equipment in Other Space Used for Environmental Air.** Section 300-22(c) shall apply.

**(d) Cable Trays.** Types MPP, MPR, MPG, and MP multipurpose cables and Types CMP, CMR, CMG, and CM communications cables shall be permitted to be installed in cable trays.

**(e) Support of Conductors.** Raceways shall be used for their intended purpose. Communications cables or wires shall not be strapped, taped, or attached by any means to the exterior of any conduit or raceway as a means of support.

#### 4. Statement of Problem and Substantiation for Proposal:

Including nonpower-limited fire alarm circuits throughout the section corrects an oversight. Deletion of reference to remote control equipment is appropriate since remote control equipment is outside the scope of the article 800. Exception No. 2 to 800-52 (a) (1) c, 1 is revised to permit only power conductors into an enclosure to provide power to a communications circuit since no other nonpower-limited circuit is appropriate. Revision of Exception No 1 to 800-52 (a) (2) permits the two inch separation rule to be waived if communications cables are enclosed in raceway, and thereby corrects an oversight. The remainder of the changes are editorial.

P80052A.DOC

ADS011253

JA02218

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5. This Proposal is original material.

222-5

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Signature (Required)

**PLEASE USE SEPARATE FORM FOR EACH PROPOSAL**

PRO52A.DOC

ADS011254

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 17 of 92

# **EXHIBIT 67**

EXHIBIT  
1248  
4-1-1502  
PENGAD 800-831-6889

FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS

Mail to: Secretary, Standards Council  
National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101  
Fax No. 617-770-3500

Note: All proposals must be received by 5:00 p.m. EST/EDST on the published proposal-closing date.

If you need further information on the standards-making process, please contact the Standards Administration Department at 617-984-7249.

Date 5 SEP 96 Name WILLIAM PRIESTLEY Tel. No. 603 764-5504

Company PRIESTLEY LIGHTNING PROTECTION

Street Address 1280 CAPE MOONSHINE ROAD, PIERMONT, NH 03779

Please Indicate Organization Represented (if any) \_\_\_\_\_

1. a) NFPA Document Title STANDARD FOR THE STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES NFPA No. & Year 58-1995

b) Section/Paragraph 3-7.1.3

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

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Log # 8  
Date Rec'd SEP 09 1996

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

ADD: THIS PROVISION SHALL NOT PROHIBIT BONDING TO THE LP GAS SYSTEM, AS REQUIRED BY NFPA 780 STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS.

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 including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

LIGHTNING ROD SYSTEMS HAVE BEEN FOUND TO HAVE THE GAS LINE BONDING CONNECTION REMOVED BY THE GAS SYSTEM INSTALLER. THIS CONNECTION IS REQUIRED BY NFPA 780 SECTIONS 3-17 AND/OR 3-24.2 AND/OR 3-24.3. NFPA 58 SECTION 3-7.1.3 STATES THAT "GROUNDING AND BONDING SHALL NOT BE REQUIRED ON LP-GAS SYSTEMS." THIS PROPOSAL WOULD END THE CONFUSION.

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: \_\_\_\_\_

Note 1: Type or print legibly in black ink.

Note 2: 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.

I hereby grant NFPA the non-exclusive, royalty-free rights, including non-exclusive, royalty-free 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.

William Priestley  
Signature (Required)

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL.

ADS019171

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 19 of 92

# **EXHIBIT 68**



EXHIBIT  
1253  
4-1-15th  
FENGAD 800-837-6989

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

**Form for Proposals on NFPA National Electrical Code**

NFPA Document and Reference: NEPA 70 100 - Definitions

OCT 23 1996

**SUBMITTER INFORMATION:**

First Name: Wayne D. Last Name: Moore, P.E.  
 Company: MBS Fire Technology, Inc. Telephone#: 770-507-0046  
 Address 1: 207 Kensington Trace PO Box:  
 Address 2:  
 City: Stockbridge State: GA Zip: 30281-6908  
 Representing: Rockbestos/Surprenant Cable Corporation Country: USA  
 Please indicate organization represented (if any) Date: 10/14/96

**FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:**

- 1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996 #1130  
 b) Article/Section: 100 - Definitions
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):

Add new definition:

**Circuit Integrity (CI).** A term used to indicate that a cable will maintain its electrical function for a given period of time under specified fire conditions.

**4. Statement of Problem and Substantiation for Proposal:**

A definition is needed to describe a cable that has been designed to function longer during a fire than standard "fire-resistant" cable and to accommodate technology presently being utilized throughout the world. This definition is needed to compliment companion proposals to CMP 16.

5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

Proposal for Submittal to NFPA as of 10/15/96

ADS007551

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Form for Proposals on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 760-2

OCT 28 1996

SUBMITTER INFORMATION:

First Name: Wayne D.

Last Name: Moore, P.E.

Company: MBS Fire Technology, Inc.

Telephone#: 770-507-0046

Address 1: 207 Kensington Trace

PO Box:

Address 2:

City: Stockbridge

State: GA Zip: 30281-6908

Representing: Rockbestos/Surprenant Cable Corporation

Country: USA

Please indicate organization represented (if any)

Date: 10/14/96

FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:

1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996

#1131

b) Article/Section: 760-2

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):

Add new definition:

Fire Alarm Circuit Integrity (CI) Cable. Cable used in fire alarm systems to ensure continued operation of critical circuits during a specified time under fire conditions.

4. Statement of Problem and Substantiation for Proposal:

This definition is used to allow new technology, that is presently being used worldwide, to be used in fire alarm systems. This cable can be used in fire alarm circuits to comply with the survivability requirements of the NFPA 72-1996, National Fire Alarm Code with the added benefit of the cable's ability to maintain its electrical function during fire conditions for a defined period of time.

- 5.  This Proposal is original material.
 This Proposal is not original material; its source (if known) is as follows:

Proposal for Submittal to NFPA as of 10/15/96

ADS007552

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Form for Proposals on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 760-3 (g) New

OCT 28 1996

SUBMITTER INFORMATION:

First Name: Wayne D. Last Name: Moore, P.E.  
 Company: MBS Fire Technology, Inc. Telephone#: 770-507-0046  
 Address 1: 207 Kensington Trace PO Box:  
 Address 2:  
 City: Stockbridge State: GA Zip: 30281-6908  
 Representing: Rockbestos/Surprenant Cable Corporation Country: USA  
 Please indicate organization represented (if any) Date: 10/14/96

FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:

1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996

#1132

b) Article/Section: 760-3 (g) New

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):  
760-3 (g) Survivability. See the requirements in the NFPA 72-1996, National Fire Alarm Code, sub-sections 3-2.4, 3-4.4, 3-12.4 and 3-12.4.3.
4. Statement of Problem and Substantiation for Proposal:  
This section needs to be added to assist those individuals in complying with the survivability requirements of NFPA 72-1996.
5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

*I. Moore*

Proposal for Submittal to NFPA as of 10/15/96

ADS007553

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**Form for Proposals on NFPA National Electrical Code**

NFPA Document and Reference: **NFPA 70 760-31(g)**

**OCT 28 1996**

**SUBMITTER INFORMATION:**

First Name: Wayne D.  
Company: MBS Fire Technology, Inc.  
Address 1: 207 Kensington Trace  
Address 2:  
City: Stockbridge  
Representing: Rockbestos/Surprenant Cable Corporation

Last Name: Moore, P.E.  
Telephone#: 770-507-0046  
PO Box:  
State: GA Zip: 30281-6908  
Country: USA

Please indicate organization represented (if any)

Date: 10/14/96

**FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:**

1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996  
b) Article/Section: 760-31(g)

**#1133**

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):

Renumber existing 760-31(g) to 760-31(h).  
Add the following words to the end of existing 760-31(g) [renumbered to 760-31(h)]:  
"Cables that are listed for circuit integrity shall be permitted to be identified with the suffix CI."

**4. Statement of Problem and Substantiation for Proposal:**

Where cables are used that provide circuit integrity to meet the requirements of NFPA 72-1996, *National Fire Alarm Code*, they should be marked appropriately. This change allows the marking to be used.

5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

*Z. Testanc*

Proposal for Submittal to NFPA as of 10/15/96

ADS007554

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Form for Proposals on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 760-31(g) New

OCT 28 1996

SUBMITTER INFORMATION:

First Name: Wayne D. Last Name: Moore, P.E.  
 Company: MBS Fire Technology, Inc. Telephone#: 770-507-0046  
 Address 1: 207 Kensington Trace PO Box:  
 Address 2:  
 City: Stockbridge State: GA Zip: 30281-6908  
 Representing: Rockbestos/Surprenant Cable Corporation Country: USA  
 Please indicate organization represented (if any): Date: 10/14/96

FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:

1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996  
 b) Article/Section: 760-31(g) New

#1134

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):

Insert a new section 760-31 (g) [renumber the balance of the section]

(g) Fire Alarm Circuit Integrity (CI) Cable. Cables suitable for use in fire alarm systems to ensure continued operation of critical circuits during a specified time under fire conditions shall be listed as Circuit Integrity (CI) Cable. Cables identified in sections 760-31(d), (e), and (f) meeting the requirements for Circuit Integrity shall have the additional classification using the suffix "CI" (for example, NPLFPCI, NPLFRCI and NPLFCI).

(FPN) This cable can be used for fire alarm circuits to comply with the survivability requirements of NFPA 72-1996, National Fire Alarm Code, that the cable must maintain its electrical function during fire conditions for a defined period of time.

4. Statement of Problem and Substantiation for Proposal:

Cables having circuit integrity are already recognized in NFPA 72-1996, National Fire Alarm Code for meeting survivability requirements. New technology has made the use of circuit integrity cables to be practical. Because of this, cables having circuit integrity are presently being used in fire alarm systems worldwide.

5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

Proposal for Submittal to NFPA as of 10/15/96

ADS007555

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**Form for Proposals on NFPA National Electrical Code**

NFPA Document and Reference: **NFPA 70 760-71 (g) New**

**OCT 28 1996**

**SUBMITTER INFORMATION:**

First Name: Wayne D. Last Name: Moore, P.E.  
 Company: MBS Fire Technology, Inc. Telephone#: 770-507-0046  
 Address 1: 207 Kensington Trace PO Box:  
 Address 2:  
 City: Stockbridge State: GA Zip: 30281-6908  
 Representing: Rockbestos/Surprenant Cable Corporation Country: USA  
 Please indicate organization represented (if any) Date: 10/14/96

**FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:**

- 1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996 **#1135**  
 b) Article/Section: 760-71 (g) New  
 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):

Insert a new section 760-71 (g) [renumber the balance the of section]

(g) **Fire Alarm Circuit Integrity (CI) Cable.** Cables suitable for use in fire alarm systems to ensure continued operation of critical circuits during a specified time under fire conditions shall be listed as Circuit Integrity (CI) Cable. Cables identified in sections 760-71(d), (e), and (f) meeting the requirements for Circuit Integrity shall have the additional classification using the suffix "CI" (for example, FPLPCI, FPLRCI and FPLCI).

(FPN) This cable can be used for fire alarm circuits to comply with the survivability requirements of NFPA 72-1996, *National Fire Alarm Code* that the cable must maintain its electrical function during fire conditions for a defined period of time.

**4. Statement of Problem and Substantiation for Proposal:**

Cables having circuit integrity are already recognized in NFPA 72-1996, *National Fire Alarm Code* for meeting survivability requirements. New technology has made the use of circuit integrity cables to be practical. Because of this, cables having circuit integrity are presently being used in fire alarm systems worldwide.

5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

*Handwritten signature/initials*

Proposal for Submittal to NFPA as of 10/15/96

ADS007556



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Form for Proposals on NFPA National Electrical Code  
NFPA Document and Reference: NFPA 70 760-71(h)

OCT 28 1996

SUBMITTER INFORMATION:

First Name: Wayne D. Last Name: Moore, P.E.  
 Company: MBS Fire Technology, Inc. Telephone#: 770-507-0046  
 Address 1: 207 Kensington Trace PO Box:  
 Address 2:  
 City: Stockbridge State: GA Zip: 30281-6908  
 Representing: Rockbestos/Surprenant Cable Corporation Country: USA  
 Please indicate organization represented (if any) Date: 10/14/96

FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:

1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996 #1136  
 b) Article/Section: 760-71(h)

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):

Renumber existing 760-71(h) to 760-71(i).  
 Add the following words to the end of existing 760-71(h) [renumbered to 760-31(h)]:  
 "Cables that are listed for circuit integrity shall be permitted to be identified with the suffix CI."

4. Statement of Problem and Substantiation for Proposal:  
 Where cables are used that provide circuit integrity to meet the requirements of NFPA 72-1996, National Fire Alarm Code, they should be marked appropriately. This change allows the marking to be used.

5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

*Electric*

Proposal for Submittal to NFPA as of 10/15/96

ADS007557

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Proposals on NFPA National Electrical Code

OCT 28 1996

NFPA Document and Reference: NFPA 70 Table 760-31(g)

SUBMITTER INFORMATION:

First Name: Wayne D. Last Name: Moore, P.E.  
 Company: MBS Fire Technology, Inc. Telephone#: 770-507-0046  
 Address 1: 207 Kensington Trace PO Box:  
 Address 2:  
 City: Stockbridge State: GA Zip: 30281-6908  
 Representing: Rockbestos/Surprenant Cable Corporation Country: USA  
 Please indicate organization represented (if any) Date: 10/14/96

FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:

1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996  
 b) Article/Section: Table 760-31(g)

#1137

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):

Re-number Table 760-31 (g) to Table 760-31 (h).  
 Re-number reference to "(g)" in third column to "(h)."  
 Add to the end of the Table:  
 Note: Cables identified in the above sections 760-31(d), (e), and (f) meeting the requirements for Circuit Integrity shall have the additional classification using the suffix "CI" (for example, NPLFPCI, NPLFRCI and NPLFCI)

4. Statement of Problem and Substantiation for Proposal:  
 Where cables are used that provide circuit integrity to meet the requirements of NFPA 72-1996, *National Fire Alarm Code*, they should be marked appropriately. This change allows the marking to be used.
5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

Proposal for Submittal to NFPA as of 10/15/96

ADS007558



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Proposals on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 Table 760-71(h)

OCT 28 1996

SUBMITTER INFORMATION:

First Name: Wayne D. Last Name: Moore, P.E.  
 Company: MBS Fire Technology, Inc. Telephone#: 770-507-0046  
 Address 1: 207 Kensington Trace PO Box:  
 Address 2:  
 City: Stockbridge State: GA Zip: 30281-6908  
 Representing: Rockbestos/Surprenant Cable Corporation Country: USA  
 Please indicate organization represented (if any) Date: 10/14/96

FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:

1.a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996

b) Article/Section: Table 760-71(h)

#1138

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):

Renumber Table 760-71(h) to Table 760-71(i).

Renumber reference to "(h)" in third column to "(i)."

Add to the end of the Table:

Note: Cables identified in the above sections 760-71(d), (e), and (f) meeting the requirements for Circuit Integrity shall have the additional classification using the suffix "CI" (for example, FPLPCI, FPLRCI and FPLCI)

4. Statement of Problem and Substantiation for Proposal:

Where cables are used that provide circuit integrity to meet the requirements of NFPA 72-1996, *National Fire Alarm Code*, they should be marked appropriately. This change allows the marking to be used.

5.  This Proposal is original material.  
 This Proposal is not original material; its source (if known) is as follows:

Proposal for Submittal to NFPA as of 10/15/96

ADS007559

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Formal Transmittal of Proposals to NFPA as of 10/14/96

OCT 28 1996

Mail a copy of the transmittal form with your signature. The registration of your new Proposals cannot be completed until this is received. Include this report with your disk. Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park Quincy, MA 02269-9101

1138-2

Last Name	First Name	NFPA No.	Year	Article/Section	
Moore, P.E.	Wayne D.	70	1996	100 - Definitions	#1130
Moore, P.E.	Wayne D.	70	1996	760-2	#1131
Moore, P.E.	Wayne D.	70	1996	760-3 (g) New	#1132
Moore, P.E.	Wayne D.	70	1996	760-31(g)	#1133
Moore, P.E.	Wayne D.	70	1996	760-31(g) New	#1134
Moore, P.E.	Wayne D.	70	1996	760-71 (g) New	#1135
Moore, P.E.	Wayne D.	70	1996	760-71(h)	#1136
Moore, P.E.	Wayne D.	70	1996	Table 760-31(g)	#1137
Moore, P.E.	Wayne D.	70	1996	Table 760-71(h)	#1138

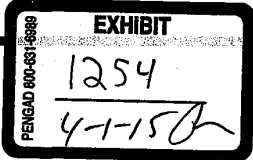
I hereby grant NFPA the non-exclusive, royalty-free rights, including non-exclusive, royalty-free rights in copyright, in the proposals described above, complete copies of which have been transmitted to NFPA via electronic file, and I understand that I acquire no rights in any publication of NFPA in which these proposals in this or another similar or analogous form are used.

770-507-0046  
Telephone Number

*Wayne D. Moore*  
Signature (Required)

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 30 of 92

# **EXHIBIT 69**



CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Proposals on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 Section 200-7 and Exceptions No.

SUBMITTER INFORMATION:

First Name: Ravindra Last Name: Ganatra
Company: Alcan Cable Telephone#: (770) 392-2311
Address 1: Three Ravinia Dr. PO Box:
Address 2: Suite 1600
City: Atlanta State: GA Zip: 30092
Representing: Self Country: USA
Please indicate organization represented (if any) Date: 11/7/96

FOR EACH PROPOSAL, PLEASE COMPLETE EACH OF THE FOLLOWING:

1.a) Document Title:

National Electrical Code NFPA No.: 70 Year: 1996

b) Article/Section: Section 200-7 and

2. Proposal recommends: (Check one) [ ] new text [X] revised text [ ] deleted text.

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

Rewrite Section 200-7 and the Exceptions No. 1, No. 2, No. 3, and No. 4 as shown below (Strikeout is used for deleted text and the new text is underlined):

200-7. Use of White or Natural Gray Color.

A continuous white or natural gray covering or three continuous white stripes on a conductor or a termination marking of white or natural gray color shall be used only for the grounded conductor.

Exception No. 1: An insulated conductor with a white or natural gray finish covering or three continuous white stripes shall be permitted as an ungrounded conductor where permanently re-identified to indicate its use, by painting or other effective means at its termination, and at each location where the conductor is visible and accessible.

Exception No. 2: A cable containing an insulated conductor with a white or natural gray outer finish covering or three continuous white stripes shall be permitted for single-pole, 3-way, or 4-way switch loops where the white or natural gray conductor with white covering or three continuous white stripes is used for the supply to the switch, but not as a return conductor from the switch to the switched outlet. In these applications, re-identification of the white or natural gray conductor with white covering or three continuous white stripes shall not be required.

Exception No. 3: A flexible cord for connecting an appliance, having one conductor identified by a white or natural gray outer finish covering or three continuous white stripes or by any other means permitted by Section 400-22, shall be permitted whether or not the outlet to which it is connected is supplied by a circuit having a grounded conductor.

Exception No. 4: A white or natural gray conductor with white covering or three continuous white stripes of circuits of less than 50 volts shall be required to be grounded only as required by Section 250-5(a).

4. Statement of Problem and Substantiation for Proposal:

Stripes, either extruded with insulation or painted over the insulation, are used effectively to identify conductors. Typically a single stripe is used to identify the ungrounded conductors. Three yellow stripes are used to identify the grounded conductors of Type USE that are used by the utilities. The proposal maintains the white color but, seeks to add an option for stripes. By eliminating "natural gray" the proposal supports the efforts made by the NEC Task Group on this issue.

- 5. [X] This Proposal is original material.
[ ] This Proposal is not original material; its source (if known) is as follows:

Proposal for Submittal to NFPA as of 12/4/96

ADS002334

CLEAR THAN THIS NOTICE  
IT IS DUE TO THE QUALITY  
OF THE DOCUMENT.

**Formal Transmittal of Proposals to NFPA as of 11/7/96**

Mail a copy of the transmittal form with your signature. The registration of your new Proposals cannot be completed until this is received. Include this report with your disk.  
Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park Quincy, MA 02269-9101

<u>Last Name</u>	<u>First Name</u>	<u>NFPA No. / year</u>	<u>Article/Section</u>
Ganatra	Ravindra	70 1996	Section 200-7 and Exceptions No. 1, No. 2, No. 3, and No. 4
Self			

3982-2

NOV 0 8 1996

*I hereby grant NFPA the non-exclusive, royalty-free rights, including non-exclusive, royalty-free rights in copyright, in the proposals described above, complete copies of which have been transmitted to NFPA via electronic file, and I understand that I acquire no rights in any publication of NFPA in which these proposals in this or another similar or analogous form are used.*

(770) 392-2311  
Telephone Number

Ravi Ganatra  
Signature (Required)

ADS002335

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 33 of 92

# **EXHIBIT 70**

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY

EXHIBIT  
1255  
4-1-15  
PENGAD 800-831-6988

**Form for Comments on NFPA National Electrical Code**

NFPA Document and Reference: NFPA 70 100

**SUBMITTER INFORMATION:**

First Name: Jim  
Company: Square D Company  
Address 1: 220 Lexington Green Circle  
Address 2: Suite 300  
City: Lexington

Last Name: Pauley  
Telephone#: 606-245-7923  
PO Box:  
State: KY Zip: 40503

Representing: \_\_\_\_\_  
Country: USA  
Date: 9/15/97

Please indicate organization represented (if any)

**FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:**

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996  
b) Article/Section: 100 Comment on proposal number: 1-134 **2756**

2. Comment recommends: (Check one):  new text  revised text  deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):

Continue to accept the proposal.

**4. Statement of Problem and Substantiation for Comment:**

This change is critical to clearing up confusion regarding what constitutes service conductors. These conductors should extend from a service point and not from an "other source of power". Although not intended by CMP 1 in the 1996 cycle, the addition of the words "other source of power" to the 1996 Code has led to many interpretations of service conductors that in reality were feeders within the premises wiring system. The deletion of this text will clear up much of this confusion and make it clear as to what rules apply.

5.  This Comment is original material.  
 This Comment is not original material; its source (if known) is as follows:

(L)

Comment for Submittal to NFPA as of 10/31/97

ADS000090

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 35 of 92

# EXHIBIT 71



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

EXHIBIT  
1256  
4-1-15  
PENGAD 800-881-1888

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 210-11 (New)

SUBMITTER INFORMATION:

First Name: Roger  
Company: State Farm Insurance  
Address 1: 1 State Farm Plaza  
Address 2:  
City: Bloomington  
Representing:  
Last Name: Witt  
Telephone#: 309 766 5945  
PO Box:  
State: IL Zip: 61710  
Country: USA  
Date: 10/21/97  
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996 OCT 24 1997  
b) Article/Section: 210-11 (New) Comment on proposal number: 2-129

2. Comment recommends: (Check one):  new text  revised text  deleted text. 2849

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):  
We recommend the Arc-Fault Circuit-Interrupter Protection proposal as amended by the panel be accepted.

4. Statement of Problem and Substantiation for Comment:  
Our research leads us to the conclusion that arcing faults are the cause of a high percentage of electrical fires. The AFCI technology addresses the problem.

CPSC has had testing done by UL and UL has done subsequent testing that demonstrates that AFCIs will address many of the fires from arcing faults in residential occupancies.

New homes will become older homes eventually and arcing faults fires seem to occur in older homes due to misuse, improper changes, or additions, or other damage to electrical equipment or appliances. As residential occupancies age, the need for this type of protection increases as changes are made to the electrical system.

5.  This Comment is original material.  
 This Comment is not original material; its source (if known) is as follows:

12

Comment for Submittal to NFPA as of 10/23/97

ADS000175

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 210-7(d)(3)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/21/97

Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 210-7(d)(3) Comment on proposal number: 2-42 OCT 24 1997

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):

(3) Where a grounding means does not exist in the receptacle enclosure, a nongrounding-type receptacle(s) shall be permitted to be replaced with another nongrounding-type receptacle(s). the installation shall comply with a, b, or c below:

a. NO Change

b. A non-grounding-type receptacle(s) shall be permitted to be replaced with a ground-fault circuit-interrupter-type of receptacle(s). These receptacles shall be marked "No Equipment Ground." An equipment grounding conductor shall not be connected from the ground-fault circuit-interrupter-type receptacle to any outlet supplied from the ground-fault circuit-interrupter receptacle

c. A nongrounding-type receptacle(s) shall be permitted to be replaced with a grounding-type receptacle(s) where supplied through a ground-fault-circuit-interrupter. Grounding-type receptacles supplied through the ground-fault-circuit-interrupter shall be marked "GFCI Protected" and "No Equipment Ground." An equipment grounding conductor shall not be connected between the grounding-type receptacles.

4. Statement of Problem and Substantiation for Comment:

With an increase in electronic technology, and the reliance on proper grounding to provide a noise free environment and a path to divert surge energy, replacement of a non-grounding type outlet with a grounding type outlet not matter if it is a GFCI device or not, is not a good practice. As we start to see more electronics in appliances and manufacturers protecting the electronics with surge protective devices (SPDs) the ground path is more and more important. If the chassis of the equipment is also connected of the same ground as the SPD, then a shock potential is possible. The installation of a grounding type receptacle provides a false sense of protection for the end user not wise in the theories and safety issues of electricity. The panel should revisit the reason the GFCI was offered as a solution for replacement outlets, consider the needs of today ie power quality and the proper operation of surge protective devices. SPDs are not only used on computers, and television sets, they are used for microwave ovens, security systems, garage door operators etc. all types of SPDs (with one exception) require a good low impedance ground path for proper operation.

5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000176

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2:
City: Bloomington State: IL Zip: 61710
Representing: Country: USA
Please indicate organization represented (if any) Date: 10/21/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 250 Comment on proposal number: 5-41

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
250-64 Resistance of Made Electrodes. A single electrode consisting of a rod, pipe, or plate that does not have a resistance to ground of 25 ohms or less shall be augmented by one additional electrode or any of the types specified in Section 250-60 or 250-62. Where multiple rod, pipe, or plate electrodes are installed to meet the requirements of this section, they shall not be less than 16 ft. (4.9m) 6 ft. (1.83m) apart.

250-78. Connections to Electrodes. The grounding conductor shall be connected to the grounding electrode by exothermic welding, listed lugs, listed pressure connectors, listed clamps, or other listed means. Connections depending on solder shall not be used. Ground clamps shall be listed for the materials of the grounding electrode and the grounding electrode conductor and, where used on pipe, rod, or other buried electrodes shall also be listed for direct soil burial. Not more than one conductor shall be connected to the grounding electrode by a single clamp or fitting unless the clamp or fitting is listed for multiple conductors. One of the methods indicated in (a), (b), or (c), or (d) below shall be used.

- a. NO CHANGE
b. NO CHANGE

c. Sheet-Metal-Strap Type Ground Clamp - A listed sheet-metal-strap type ground clamp having a rigid metal base that seats on the electrode and having a strap of such material and dimensions that it is not likely to stretch during or after installation.

d. Other Means. An equally substantial approved means.

250-130(b) Equipment Grounding Conductor

(b) For Ungrounded System. The connection shall be made by bonding the equipment grounding conductor to the grounding electrodes conductor and to the grounded service conductor. Exception for (a) and (b): For replacement of non-grounding typed receptacles with grounding type receptacles and for branch-circuit extensions only in existing installations that do not have an equipment grounding conductor in the branch circuit, the grounding or a grounding type receptacle outlet shall be permitted to be grounded to an accessible point on the grounding electrode system as described in 250-60, or to any accessible point on the grounding electrode conductor (EPN): See section 210.7(d) for the use of a ground fault interrupter type receptacle

4. Statement of Problem and Substantiation for Comment:

250-64 substantiation: Using the table 5, Table 8 and Table 9 in the IEEE green book, it appears that adding an additional rod less than one rod length does not appreciably reduce the resistance. And the Comment for Submittal to NFPA as of 10/23/97

ADS000177

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resistance will not be halved unless the additional rods are at least several rod lengths apart. With this information, why not change the distance requirement from 6 feet to 16 feet. The cost of this additional rod, wire and clamp is less than the cost to measure the resistance of a single rod.

250-78 Connections to electrodes: Since there are band clamps that do stretch, why not just delete the allowance totally. If an inspector cannot determine which clamp will stretch and which will not, and there are homes being built that do not have the benefit of the inspection process so maybe the contractor or homeowner does not know which band clamp will or will not stretch, the homeowner suffers in the end and the purpose of the NEC requirements for proper bonding and grounding is negated.

250-130(b) Equipment grounding conductor: Should the equipment grounding conductor run parallel to the phase and neutral, and in the same enclosure or not? When considering the safety issues of the circuit and how that circuit is utilized, is a separate grounding conductor with an unknown distance, routing and impedance safe? Consider the use of surge protective devices. Will the grounding wire be suitable to divert the energy safely to ground or will an alternate path be taken. Since this is an unknown, and safety is the issue, I recommend that where a grounded type receptacle is replacing a non grounded receptacle and there is no grounding conductor in the box, that a new set of circuit wires be installed from the panel to the device wiring that includes the grounding conductor. The FPN note was also struck to eliminate the replacement of non grounded receptacles with grounding receptacles of any type. If a ground is needed by an appliance, whether for safety or proper operation, a non grounded device will not work adequately

2851-2

- 5.  This Comment is original material.
- This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000178

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/22/97

Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 250 Comment on proposal number: 5-41A

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (Include proposed new or revised wording, or identification of wording to be deleted):
250-56 Resistance of Made Electrodes. A single electrode consisting of a rod, pipe, or plate that does not have a resistance to ground of 25 ohms or less shall be augmented by one additional electrode or any of the types specified in Section 250-60 or 250-62. Where multiple rod, pipe, or plate electrodes are installed to meet the requirements of this section, they shall not be less than 16 ft. (4.9m) 6 ft. (1.83m) apart.

(EPN): The paralleling efficiency of rods longer than 8 ft (2.44m) is improved by spacing greater than 6 ft. (1.83m) apart.

250-70. Grounding Conductor Connections to Electrodes. The grounding conductor shall be connected to the grounding electrode by exothermic welding, listed lugs, listed pressure connectors, listed clamps, or other listed means. Connections depending on solder shall not be used. Ground clamps shall be listed for the materials of the grounding electrode and the grounding electrode conductor and, where used on pipe, rod, or other buried electrodes shall also be listed for direct soil burial. Not more than one conductor shall be connected to the grounding electrode by a single clamp or fitting unless the clamp or fitting is listed for multiple conductors. One of the methods indicated in (a), (b), or (c), or (d) below shall be used.

- a. NO CHANGE
b. NO CHANGE
c. Sheet-Metal-Strap Type Ground Clamp. A listed sheet-metal-strap type ground clamp having a rigid metal base that seats on the electrode and having a strap of such material and dimensions that it is not likely to stretch during or after installation.
d. e. Other Means. An equally substantial approved means.

250-130(b) Equipment Grounding Conductor
(b) For Ungrounded System. The connection shall be made by bonding the equipment grounding conductor to the grounding electrodes conductor and to the grounded service conductor.
Exception for (a) and (b): For replacement of non-grounding-typed receptacles with grounding-type receptacles and for branch-circuit extensions only in existing installations that do not have an equipment grounding conductor in the branch circuit, the grounding or a grounding-type receptacle outlet shall be permitted to be grounded to an accessible point on the grounding electrode system as described in 250-60, or to any accessible point on the grounding electrode conductor.
(EPN): See section 210-7(d) for the use of a ground fault circuit-interrupter-type receptacle

4. Statement of Problem and Substantiation for Comment:
Comment for Submittal to NFPA as of 10/23/97

ADS000179



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

250-56 Substantiation: Using the table 5, Table 8 and Table 9 in the IEEE green book, it appears that adding and additional rod less than one rod length does not appreciably reduce the resistance. And the resistance will not be halved unless the additional rods are at least several rod lengths apart. With this information, why not change the distance requirement from 6 feet to 16 feet. The cost of this additional rod, wire and clamp is less than the cost to measure the resistance of a single rod.

250-70 Connections to electrodes: Since there are band clamps that do stretch, why not just delete the allowance totally. If an inspector cannot determine which clamp will stretch and which will not, and there are homes being built that do not have the benefit of the inspection process so maybe the contractor or homeowner does not know which band clamp will or will not stretch, the homeowner suffers in the end and the purpose of the NEC requirements for proper bonding and grounding is negated.

250-130(b) Equipment grounding conductor: Should the equipment grounding conductor run parallel to the phase and neutral, and in the same enclosure or not? When considering the safety issues of the circuit and how that circuit is utilized, is a separate grounding conductor with an unknown distance, routing and impedance safe? Consider the use of surge protective devices. Will the grounding wire be suitable to divert the energy safely to ground or will an alternate path be taken, Since this is an unknown, and safety is the issue, I recommend that where a grounded type receptacle is replacing a non grounded receptacle and there is no grounding conductor in the box, that a new set of circuit wires be installed from the panel to the device wiring that includes the grounding conductor. The FPN note was also struck to eliminate the replacement of non grounded receptacles with grounding receptacles of any type. If a ground is needed by an appliance, whether for safety or proper operation, a non grounded device will not work adequately

2852-2

- 5.  This Comment is original material.
- This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000180

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250-50 (a)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/22/97
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 250-50 (a) Comment on proposal number: 5-150 2153

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
Panel Action Revision: OCT 24 1997
Delete sub paragraph c1, c2,c4 and c5, and the FPN

4. Statement of Problem and Substantiation for Comment:
Should the equipment grounding conductor run parallel to the phase and neutral, and in the same enclosure or not? When considering the safety issues of the circuit and how that circuit is utilized, is a separate grounding conductor with an unknown distance, routing and impedance safe? Consider the use of surge protective devices. Will the grounding wire be suitable to divert the energy safely to ground or will an alternate path be taken, Since this is an unknown, and safety is the issue, I recommend that where a grounded type receptacle is replacing a non grounded receptacle and there is no grounding conductor in the box, that a new set of circuit wires be installed from the panel to the device wiring that includes the grounding conductor. The FPN note was also struck to eliminate the replacement of non grounded receptacles with grounding receptacles of any type. If a ground is needed by an appliance, whether for safety or proper operation, a non grounded device will not work adequately

5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

(Handwritten mark)

Comment for Submittal to NFPA as of 10/23/97

ADS000181

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250-50 (a)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA

Please indicate organization represented (if any) Date: 10/22/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996 2854
b) Article/Section: 250-50 (a) Comment on proposal number: 5-161

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
Delete proposed exception in sub paragraph a OCT 24 1997

(b) For ungrounded System. The connection shall be made by bonding the equipment grounding conductor to the grounding electrode conductor and to the grounded service conductor.
Delete the exception under sub paragraph b and the FPN

4. Statement of Problem and Substantiation for Comment:
Should the equipment grounding conductor run parallel to the phase and neutral, and in the same enclosure or not? When considering the safety issues of the circuit and how that circuit is utilized, is a separate grounding conductor with an unknown distance, routing and impedance safe? Consider the use of surge protective devices. Will the grounding wire be suitable to divert the energy safely to ground or will an alternate path be taken, Since this is an unknown, and safety is the issue, I recommend that where a grounded type receptacle is replacing a non grounded receptacle and there is no grounding conductor in the box, that a new set of circuit wires be installed from the panel to the device wiring that includes the grounding conductor. The FPN note was also struck to eliminate the replacement of non grounded receptacles with grounding receptacles of any type. If a ground is needed by an appliance, whether for safety or proper operation, a non grounded device will not work adequately

5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:



Comment for Submittal to NFPA as of 10/23/97

ADS000182



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250-50a

SUBMITTER INFORMATION:

First Name: Roger, Last Name: Witt, Company: State Farm Insurance, Telephone#: 309 766 5945, Address 1: 1 State Farm Plaza, PO Box: , Address 2: , City: Bloomington, State: IL, Zip: 61710, Representing: , Country: USA, Date: 10/22/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

- 1. a) Document Title: National Electrical Code, NFPA No.: 70, Year: 1996, 2855; b) Article/Section: 250-50a, Comment on proposal number: 5-162; 2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text; 3. Comment (include proposed new or revised wording, or identification of wording to be deleted): Same comments as for comment on proposal 5-161, OCT 24 1997; 4. Statement of Problem and Substantiation for Comment: Should the equipment grounding conductor run parallel to the phase and neutral, and in the same enclosure or not? ...; 5. [X] This Comment is original material. [ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000183

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250-71 (b)

SUBMITTER INFORMATION:

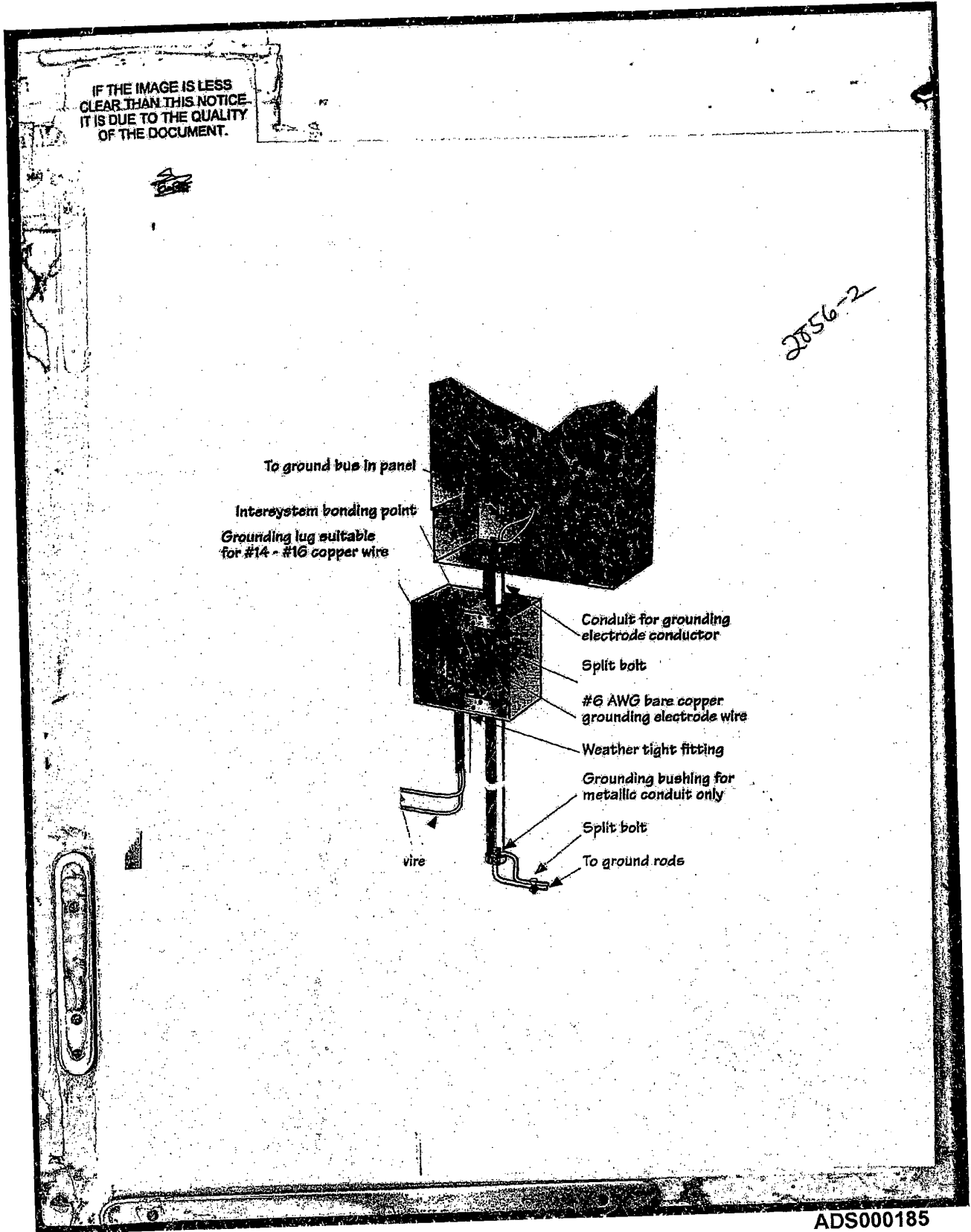
First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2:
City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/23/97
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

- 1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 250-71 (b) Comment on proposal number: 5-189
2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text
3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
Revise as follows:
(b) Bonding to Other Systems. An accessible means external to service equipment enclosures for connecting intersystem bonding and grounding conductors shall be provided at the service by at least one of the following means:
(1) NO CHANGE
(2) NO CHANGE
(3) NO CHANGE
(4) An enclosure containing a grounding bar with 6 positions for #14 - #6 copper conductors. The grounding bar shall be bonded to the grounding electrode with #6 copper conductor. The enclosure shall be mounted below the service entrance revenue metering equipment for the building. The enclosure shall be a cast box with a gasketed coverplate. The marking "INTERSYSTEM BONDING" shall be provided on the enclosure and coverplate.
For the purpose of providing an accessible means for intersystem bonding, the disconnection means at a separate building or structure as permitted in Section 250-23(a), Exception No. 1 shall be considered the service equipment.
4. Statement of Problem and Substantiation for Comment:
The present code language allows for an opportunity for proper intersystem bonding, however, we have observed that these opportunities are not obvious enough to be utilized. Observation of missing bonding bushings on both ends of metallic conduit and evidence of separate ground rods driven for communication services without bonding to the electrical system grounding electrode, have been made. It is the contention of this writer that if a well marked and accessible intersystem bonding point is established, proper intersystem grounding may be provided. Illustration attached.
5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000184



ADS000185

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250-81 (c)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2:
City: Bloomington State: IL Zip: 61710
Representing: Country: USA
Please indicate organization represented (if any) Date: 10/23/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

- 1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 250-81 (c) Comment on proposal number: 5-241
2. Comment recommends: (Check one): [X] new text [ ] revised text [ ] deleted text
3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
c) Concrete Encased Electrode. An electrode encased by at least 2 in. (50.8mm) of concrete, located within and near the bottom of a concrete foundation or footing that is in direct contact with the earth consisting of at least 20 ft. (6.15m) of one or more bare or zinc galvanized or other electrically conductive coated steel reinforcing bars or rods of not less than 1/2" in. (12.7mm) diameter, or consisting of at least 20 ft. (6.1m) of bare copper conductor not smaller than No. 4.
4. Statement of Problem and Substantiation for Comment:
After observing several installations of the UFER grounding method we found that one 20 foot long REBAR was used. The result was that 16 feet of REBAR was encased in the concrete near the bottom with 4 foot used for the vertical portion extending through the foundation wall. Welding two rods together seems to be the only way to ensure a conductive coupling of rebar and that may not be practiced in the field. The code allows the opportunity for using rebar properly, but it seems that the intent is not being met in all cases. The reason believed to be the cause of this misapplication is the standard length the rebar is provided to the builders. The other reason although not considered part of the NEC is the picture offered in the NEC handbook depicting the rebar turned up exiting the foundation wall and the transition to copper wire. In order to mimic the pictorial, less than 20 feet of rebar remains at the bottom of the footing.
5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

Handwritten initials or signature.

Comment for Submittal to NFPA as of 10/23/97

ADS000186

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 250-84

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2:
City: Bloomington State: IL Zip: 61710
Representing: Country: USA
Please indicate organization represented (if any) Date: 10/23/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 250-84 Comment on proposal number: 5-252

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted): OCT 24 1997

250-84. Resistance of Made Electrodes.
When the electrode consisting of a rod, pipe, or plate is used, the electrode shall consist of a minimum of two rods, pipes, or plates spaced 16 ft. (4.8 m) apart and bonded together with #6 bare copper wiring.
The connection of the wiring to the electrode shall be made with nonreversible connectors.
A single electrode consisting of a plate that does not have a resistance to ground of 25 ohms or less shall be augmented by one additional electrode of any of the types specified in Section 250.81 or 250.83.
Where multiple rod, pipe or plate electrode is installed to augment the resistance of a plate electrode, they shall not be less than 6 ft. (1.83m) apart.
(EPN): The paralleling efficiency of rods longer than 8ft. (2.44m) is improved by spacing greater than 6 ft. (1.83m)

4. Statement of Problem and Substantiation for Comment:
Technical substantiation is found in the IEEE green book for placement of grounding electrodes. The assumption that requiring the second electrode is meant to reduce the resistance of the electrode system. As I understand the IEEE reference, an electrode installed less than one rod length will not appreciably reduce the resistance. The reference to the nonreversible connectors is to prevent the loosening of the bonding point sometimes found with mechanical connectors that are not maintained.

5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

(Handwritten initials)

Comment for Submittal to NFPA as of 10/23/97

ADS000187



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 290 (NEW)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA
Please indicate organization represented (if any) Date: 10/23/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 290 (NEW) Comment on proposal number: 5-337 2859

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

OCT 24 1997

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
This is in support of the proposed new article on Surge Protective Devices as listed in the ROP 5-337.

4. Statement of Problem and Substantiation for Comment:
The Panel did not seem to object to the proposed article other than to query the difference between a surge arrestor and a surge protective device, and why a new article was proposed.

- 1. A surge arrestor is a device that.....
A surge protective device is a device that.....
2. The reason for a new article was to differentiate between residential occupancies and other types of occupancies. The differences being that in residential occupancies it has been encouraged that all power and communications services to the building enter the building in a relative close proximity, where intersystem bonding can be readily done. In buildings with other types of occupancies you may find antenna systems on the roof where it is impractical to bond to the service entrance grounding electrode, and as noted in article 280 the bonding is to be connected to the nearest building steel. Article 280 appears to relate to equipment most commonly found in non residential occupancies.

5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000188

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 410-30 (d)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/23/97
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

- 1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 410-30 (d) Comment on proposal number: 18-46
2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.
3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
Do not include the proposed 410-30(d) in the National Electrical Code. In essence Delete panel accepted in principle paragraph 410-30(d)

4. Statement of Problem and Substantiation for Comment:
The substantiation for this code change seems to be the ability to easily move lighting fixtures to correspond to modular wall a furnishing changes. Flexible metal conduit or MC assemblies with modular wiring connectors are an accepted practice and conform to the code requirements today. And as commented elsewhere in the code change process, this issue appears to be a design problem and not one of safety. I am concerned with flammability and toxicity of a portable cord above a ceiling and especially if used in a return air plenum ceiling. The issue of unsupported cables, non specified attachment means, and non specified wire sizing is also troublesome. The issue of possible cross talk or EMI with communications systems such as telephone, fire alarm systems, emergency paging systems and the like has not been addressed. Retention or the plug body, or type of connector plug has not been addressed. It appears that all the safety issues will be left up to a listing agency after the code makes an allowance for the system rather than addressing the concerns before the NEC considers it an acceptable wiring method. Realistically the experience found in Canada does not relate in the US, since the issues of connection points, retention of plug and connector, cross talk, toxicity, flammability etc. have not been addressed or have not been necessarily (time) tested prior to submitting this proposal to the NEC.

- 5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

(E)

Comment for Submittal to NFPA as of 10/23/97

ADS000189

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 800-10 (c)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2:
City: Bloomington State: IL Zip: 61710
Representing: Country: USA
Please indicate organization represented (if any) Date: 10/22/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 800-10 (c) Comment on proposal number: 16-164

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted): OCT 24 1997

Add new Section 800-10(c) to read as follows:
(c) Point of Entry. The point of entry for communications wiring and cables shall be within 5 feet of the electrical service entry point.
(FPN): The distance to the electrical system, grounding electrode has a direct relationship to the potential difference between the communications circuits and the power circuits.
Exception: Where it is not practicable to install the communications and electrical service in this manner, a separate grounding electrode, installed in compliance with 250-83 (c), shall be installed for the communications systems and the grounding electrodes for the electrical and communications systems shall be connected with a bare or insulated #4 copper conductor. The conductor shall not be exposed to mechanical injury, and when buried, shall be buried to a depth of 24 inches

4. Statement of Problem and Substantiation for Comment:
Change in proposed text as recommended by one of the panel members and shown in the ROP.
By requiring a specific point of entry, the requirement becomes enforceable. Single point grounding for all communications services and power services is needed to provide equal potential between the systems. There is evidence that when communications services are installed remote from the power system service, separate ground rods are installed and not bonded to the electrical service grounding electrode. By specifying a service entrance location adjacent to the power system service entrance a better chance of single point grounding is presented.

5. [X] This Comment is original material.
[X] This Comment is not original material; its source (if known) is as follows:
Suggested comment from CMP panel member Katz, after review of original Proposal

Comment for Submittal to NFPA as of 10/23/97

ADS000190



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 800-11(c)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/23/97
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 800-11(c) Comment on proposal number: 16-166

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted): OCT 24 1997

Add new Section 811-10(c) to read as follows:
(c) Point of Entry. The point of entry for communications wiring and cables shall be within 5 feet of the electrical service entry point.
(FPN): The distance to the electrical system, grounding electrode has a direct relationship to the potential difference between the communications circuits and the power circuits.
Exception: Where it is not practicable to install the communications and electrical service in this manner, a separate grounding electrode, installed in compliance with 250-83 (c), shall be installed for the communications systems and the grounding electrodes for the electrical and communications systems shall be connected with a bare or insulated #4 copper conductor. The conductor shall not be exposed to mechanical injury, and when buried, shall be buried to a depth of 24 inches

4. Statement of Problem and Substantiation for Comment:
Change in proposed text as recommended by one of the panel members and shown in the ROP.
By requiring a specific point of entry, the requirement becomes enforceable. Single point grounding for all communications services and power services is needed to provide equal potential between the systems. There is evidence that when communications services are installed remote from the power system service, separate ground rods are installed and not bonded to the electrical service grounding electrode. By specifying a service entrance location adjacent to the power system service entrance a better chance of single point grounding is presented.

5. [ ] This Comment is original material.
[X] This Comment is not original material; its source (if known) is as follows:
Suggested comment from CMP panel member Katz, after review of original Proposal

Comment for Submittal to NFPA as of 10/23/97

ADS000191

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 800-40 (b)

SUBMITTER INFORMATION:

First Name: Roger Company: State Farm Insurance Address 1: 1 State Farm Plaza Address 2: City: Bloomington Representing: Last Name: Witt Telephone#: 309 766 5945 PO Box: State: IL Zip: 61710 Country: USA Date: 10/23/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996 b) Article/Section: 800-40 (b) Comment on proposal number: 16-172

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):

Revise as follows:

(b) Electrode. The grounding conductor shall be connected a follows:

(1) To the nearest accessible location on (1) the building or structure grounding electrode system as covered in Section 250-81 and 250-71 (b), (2) the grounded interior metal water piping system as covered in Section 250-80 (a), (2) the intersystem bonding point as covered in Section 250-71(b) excluding the interior water piping system (3) the power service accessible means external to enclosures as covered in Section 250-71 (b), (4) the metallic power service raceway, (5) the service equipment enclosure, or (6) the grounding electrode conductor or the grounding electrode conductor metal enclosures, or (7) to the grounding electrode conductor or the grounding electrode of a building or structure disconnecting means that is grounded to an electrode as covered in Section 250-24;

4. Statement of Problem and Substantiation for Comment:

Delete the option for bonding to the water piping system because piping systems can be repaired with non conductive parts leaving an ungrounded system. 250-80a makes no conditions about electrical continuity or integrity nor does it require limitations on connection point or location of connection. Add the intersystem grounding point per 250-71b as it is referenced for such a bonding location. Delete the metallic power service raceway because this raceway is not required to be properly bonded to the grounding electrode conductor or electrode. ie the raceway is connected to the meter box and stubbed into the ground, there is no provision to have grounding bushings installed on both ends of that conduit leaving a question does that condition present a low impedance path to ground?. The Panel mentioned a long term history of safe and reliable performance. Consider that todays appliances have more electronic components and operate at lower voltage than in the past, the goal of this proposal is to require bonding at a verifiable location and at a location where the characteristics of the grounding will not change (case of metallic piping) If the connection point for intersystem bonding is required to be at the electrical service entrance point of entry then it may force the point of entry for the cable system to be adjacent to the electrical system and offer the best performance for equal potential between the two services and low impedance paths.

5. [X] This Comment is original material. [ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000192

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 810-21(f)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2:
City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/23/97
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 810-21(f) Comment on proposal number: 16-206
2864
OCT 24 1997

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):

Revise as follows:

(b) Electrode. The grounding conductor shall be connected as follows:

(1) To the nearest accessible location on (1) the building or structure grounding electrode system as covered in Section 250-81 and 250-71 (b), (2) the grounded interior metal water piping system as covered in Section 250-80 (a), (2) the intersystem bonding point as covered in Section 250-71(b) excluding the interior water piping system (3) the power service accessible means external to enclosures as covered in Section 250-71 (b), (4) the metallic power service raceway, (5) the service equipment enclosure, or (6) the grounding electrode conductor or the grounding electrode conductor metal enclosures, or (7) to the grounding electrode conductor or the grounding electrode of a building or structure disconnecting means that is grounded to an electrode as covered in Section 250-24;

4. Statement of Problem and Substantiation for Comment:

Delete the option for bonding to the water piping system because piping systems can be repaired with non conductive parts leaving an ungrounded system. 250-80a makes no conditions about electrical continuity or integrity nor does it require limitations on connection point or location of connection. Add the intersystem grounding point per 250-71b as it is referenced for such a bonding location. Delete the metallic power service raceway because this raceway is not required to be properly bonded to the grounding electrode conductor or electrode. ie the raceway is connected to the meter box and stubbed into the ground, there is no provision to have grounding bushings installed on both ends of that conduit leaving a question does that condition present a low impedance path to ground?. The Panel mentioned a long term history of safe and reliable performance. Consider that todays appliances have more electronic components and operate at lower voltage than in the past, the goal of this proposal is to require bonding at a verifiable location and at a location where the characteristics of the grounding will not change (case of metallic piping) If the connection point for intersystem bonding is required to be at the electrical service entrance point of entry then it may force the point of entry for the cable system to be adjacent to the electrical system and offer the best performance for equal potential between the two services and low impedance paths.

5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000193

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 810-55

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/23/97

Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996 2865
b) Article/Section: 810-55 Comment on proposal number: 16-208 OCT 24 1997

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):
Add the following paragraph to the existing:
The point of entry for communications wiring and cables shall be within 5 feet of the electrical service entry point.
(FPN): The distance to the electrical system, grounding electrode has a direct relationship to the potential difference between the communications circuits and the power circuits.
Exception: Where it is not practicable to install the communications and electrical service in this manner, a separate grounding electrode, installed in compliance with 250-83 (c), shall be installed for the communications systems and the grounding electrodes for the electrical and communications systems shall be connected with a bare or insulated #4 copper conductor. The conductor shall not be exposed to mechanical injury, and when buried, shall be buried to a depth of 24 inches

4. Statement of Problem and Substantiation for Comment:
Change in proposed text as recommended by one of the panel members and shown in the ROP.
By requiring a specific point of entry, the requirement becomes enforceable. Single point grounding for all communications services and power services is needed to provide equal potential between the systems. There is evidence that when communications services are installed remote from the power system service, separate ground rods are installed and not bonded to the electrical service grounding electrode. By specifying a service entrance location adjacent to the power system service entrance a better chance of single point grounding is presented.

5. [ ] This Comment is original material.
[X] This Comment is not original material; its source (if known) is as follows:
CMP member Katz in suggested wording of the original proposal

(Handwritten mark)

Comment for Submittal to NFPA as of 10/23/97

ADS000194



IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 820-11(c)

SUBMITTER INFORMATION:

First Name: Roger, Last Name: Witt, Company: State Farm Insurance, Telephone#: 309 766 5945, Address 1: 1 State Farm Plaza, PO Box: , Address 2: , City: Bloomington, State: IL, Zip: 61710, Representing: , Country: USA, Date: 10/23/97

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code, NFPA No.: 70, Year: 1996, Comment on proposal number: 16-220, b) Article/Section: 820-11(c), OCT 24 1997

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):

Add new Section 820-11(c) to read as follows:

(c) Point of Entry. The point of entry for communications wiring and cables shall be within 5 feet of the electrical service entry point.

(FPN): The distance to the electrical system, grounding electrode has a direct relationship to the potential difference between the communications circuits and the power circuits.

Exception: Where it is not practicable to install the communications and electrical service in this manner, a separate grounding electrode, installed in compliance with 250-83 (c), shall be installed for the communications systems and the grounding electrodes for the electrical and communications systems shall be connected with a bare or insulated #4 copper conductor. The conductor shall not be exposed to mechanical injury, and when buried, shall be buried to a depth of 24 inches

4. Statement of Problem and Substantiation for Comment:

Change in proposed text as recommended by one of the panel members and shown in the ROP. By requiring a specific point of entry, the requirement becomes enforceable. Single point grounding for all communications services and power services is needed to provide equal potential between the systems. There is evidence that when communications services are installed remote from the power system service, separate ground rods are installed and not bonded to the electrical service grounding electrode. By specifying a service entrance location adjacent to the power system service entrance a better chance of single point grounding is presented.

5. [ ] This Comment is original material. [X] This Comment is not original material; its source (if known) is as follows:

Suggested comment from CMP panel member Katz, after review of original Proposal

(E)

Comment for Submittal to NFPA as of 10/23/97

ADS000195

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 820-40(b)

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/23/97
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 820-40(b) Comment on proposal number: 16-222 2867

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted): OCT 24 1997

Revise as follows:

(b) Electrode. The grounding conductor shall be connected a follows:

(1) To the nearest accessible location on (1) the building or structure grounding electrode system as covered in Section 250-81 and 250-71 (b), (2) the grounded interior metal water piping system as covered in Section 250-80 (a), (2) the intersystem bonding point as covered in Section 250-71(b) excluding the interior water piping system (3) the power service accessible means external to enclosures as covered in Section 250-71 (b), (4) the metallic power service raceway, (5) the service equipment enclosure, or (6) the grounding electrode conductor or the grounding electrode conductor metal enclosures, or (7) to the grounding electrode conductor or the grounding electrode of a building or structure disconnecting means that is grounded to an electrode as covered in Section 250-24;

4. Statement of Problem and Substantiation for Comment:

Delete the option for bonding to the water piping system because piping systems can be repaired with non conductive parts leaving an ungrounded system. 250-80a makes no conditions about electrical continuity or integrity nor does it require limitations on connection point or location of connection. Add the intersystem grounding point per 250-71b as it is referenced for such a bonding location. Delete the metallic power service raceway because this raceway is not required to be properly bonded to the grounding electrode conductor or electrode. ie the raceway is connected to the meter box and stubbed into the ground, there is no provision to have grounding bushings installed on both ends of that conduit leaving a question does that condition present a low impedance path to ground?. The Panel mentioned a long term history of safe and reliable performance. Consider that todays appliances have more electronic components and operate at lower voltage than in the past, the goal of this proposal is to require bonding at a verifiable location and at a location where the characteristics of the grounding will not change (case of metallic piping) If the connection point for intersystem bonding is required to be at the electrical service entrance point of entry then it may force the point of entry for the communication system to be adjacent to the electrical system and offer the best performance for equal potential between the two services and low impedance paths.

5. [X] This Comment is original material.
[ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97

ADS000196

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 830

SUBMITTER INFORMATION:

First Name: Roger Last Name: Witt
Company: State Farm Insurance Telephone#: 309 766 5945
Address 1: 1 State Farm Plaza PO Box:
Address 2: City: Bloomington State: IL Zip: 61710
Representing: Country: USA Date: 10/23/97
Please indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code NFPA No.: 70 Year: 1996
b) Article/Section: 830 Comment on proposal number: 16-236

2868

2. Comment recommends; (Check one): [X] new text [ ] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted):

OCT 24 1997

Return the proposed 830 to committee

4. Statement of Problem and Substantiation for Comment:

It is not our intent to prevent new technology from being implemented however the NEC is a safety code and there are a few issues that the proposed article does not seem to address:

- 1. The communication system carries a voltage exceeding 50 volts which takes it out of the inherently safe category.
2. For electrical services to the building, a main disconnect is required plus a grounding electrode to stabilize the voltage and prevent excess during surge conditions. How will this communications system handle a disconnecting means for the low and medium classes?
3. For Fire Service use the main switch for a building is easily identifiable and cuts off all of the ungrounded conductors supplying the building. If more than one main switch is provided, they are required to be located adjacent to one another and marked main 1 or xx, 2 of xx etc. Also if the disconnect switch for this communications system is not recognizable a hazard may exist for the Fire Service personnel.
4. The main disconnect for the electrical service shall be located in an accessible location, is this the case for the disconnect for the communication system where one is required.
5. What conditions are specified to ensure equal potential between services?
6. What insulation levels are specified, are they consistent with the electrical portions of the NEC?
7. How will it interface with current products on the market such as combination multi port surge protective devices, chassis grounding of electronic components such as computers and television sets?
8. What prevents a back feed condition, is it possible during an electrical power outage that the communication voltage can be inadvertently connected?
9. What provisions are in place to identify phase, neutral and grounding, is and equipment ground used in the wiring system?
10. Where for the telephone industry UL 497A applies for a standard to prevent fires and overheating conditions, what safety standards are in place for this system?
11. There are many uninformed people who are accustomed to working with antenna systems in the home, of course there is not 100 volts available on the wiring system. With the new communication wiring system there is the opportunity for a shock hazard when people are unaware there is voltage available. There is no apparent safeguard against this shock potential.

These are a few concerns that should be addressed before this code proposals is accepted.
Comment for Submittal to NFPA as of 10/23/97

ADS000197

IF THE IMAGE IS LESS CLEAR THAN THIS NOTICE IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Form for Comments on NFPA National Electrical Code

NFPA Document and Reference: NFPA 70 90-3

SUBMITTER INFORMATION:

First Name: Roger, Last Name: Witt, Company: State Farm Insurance, Telephone#: 309 766 5945, Address 1: 1 State Farm Plaza, PO Box: , Address 2: , City: Bloomington, State: IL, Zip: 61710, Representing: , Country: USA, Date: 10/21/97

Please Indicate organization represented (if any)

FOR EACH COMMENT, PLEASE COMPLETE EACH OF THE FOLLOWING:

1. a) Document Title: National Electrical Code, NFPA No.: 70, Year: 1996, Article/Section: 90-3, Comment on proposal number: 1-23

2869-1, OCT 24 1997

2. Comment recommends: (Check one): [ ] new text [X] revised text [ ] deleted text.

3. Comment (include proposed new or revised wording, or identification of wording to be deleted): Revise as follows: 90-3. Code Arrangement. This Code is divided into the Introduction and nine chapters. Chapter 1,2,3 and 4 apply generally; Chapters 5, 6, and 7 apply to special occupancies, special equipment, or other special conditions; Chapter 8 applies to communications systems, specifically as it relates to the communications service entrance to the building or structure. These latter chapters supplement or modify the general rules. Chapter 1 through 4 apply except as amended by Chapters 5,6,7 and 8 for the particular conditions. Chapter 8 covers communications systems and is independent of the other chapters except where they are specifically referenced therein

4. Statement of Problem and Substantiation for Comment: Proposed and rejected with "Panel Statement" "The substantiation does not provide technical data to warrant a change to a time tested provision to the NEC" There is a proposed and "accepted" article in chapter 8: Proposed Article 830 - Network-Powered Broadband Communications Systems: that seriously requires the inclusion of Chapter 8 work subject to the first 7 chapters of the NEC. Proposed article 830 references quite a few provisions of the earlier chapters, but modifies grounding provisions, overcurrent provisions, and possibly a few other rules that are important for the safety of the public. By including Chapter 8, Code enforcement can apply to the communications wiring methods. My original comment was based on code enforcement of grounding to prevent electrical hazards, and with the proposed 830 section it appears even more relevant since the system relating to 830 provides voltage and current to the occupancy. Futher Research: Prior to the annual meeting, check the grounding on your house and your neighbors house, see if you can determine if the Telephone and TV services have a single point ground common to the electrcial service. This represents only data points, the requirement of single point grounding is valid, as it is stated in the NEC, but the "time tested provision" stated by the ROP PANEL, to me, eludes to the thought that single point grounding is indeed practiced. One of the important parts of a code enforcement program is to ensure or promote the safety and welfare of the public. Without enforceable codes, this cannot happen.

5. [X] This Comment is original material. [ ] This Comment is not original material; its source (if known) is as follows:

Comment for Submittal to NFPA as of 10/23/97



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**Formal Transmittal of Comments to NFPA as of 10/23/97**

Mail a copy of the transmittal form with your signature. The registration of your new Comments cannot be completed until this is received. Include this report with your disk.  
 Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park Quincy, MA 02269-9101.

*2009-2*  
*file updated*

Last Name	First Name	NFPA No. / year	Article/Section	
Witt	Roger	70	1996	
				Comment on prop#
Witt	Roger	70	1996 210-11 (New)	2849
				Comment on prop# 2-129
Witt	Roger	70	1996 210-7(d)(3)	2850
				Comment on prop# 2-42
Witt	Roger	70	1996 250	2851
				Comment on prop# 5-41
Witt	Roger	70	1996 250	2852
				Comment on prop# 5-41A
Witt	Roger	70	1996 250-50 (a)	2853
				Comment on prop# 5-150
Witt	Roger	70	1996 250-50 (a)	2854
				Comment on prop# 5-161
Witt	Roger	70	1996 250-50a	2855
				Comment on prop# 5-162
Witt	Roger	70	1996 250-60	blank
				Comment on prop#
Witt	Roger	70	1996 250-71 (b)	2856
				Comment on prop# 5-189
Witt	Roger	70	1996 250-81 (c)	2857
				Comment on prop# 5-241
Witt	Roger	70	1996 250-84	2858
				Comment on prop# 5-252
Witt	Roger	70	1996 290 (NEW)	2859
				Comment on prop# 5-337
Witt	Roger	70	1996 410-30 (d)	2860
				Comment on prop# 18-46

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309 766 5945

Telephone#

*Roger Witt*

Signature (Required)

ADS000199

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2869-3

Last Name	First Name	NFPA No. / year	Article/Section	
Witt	Roger	70 1996	800-10 (c) Comment on prop# 16-164	2861
Witt	Roger	70 1996	800-11(c) Comment on prop# 16-166	2862
Witt	Roger	70 1996	800-40 (b) Comment on prop# 16-172	2863
Witt	Roger	70 1996	810-21(f) Comment on prop# 16-206	2864
Witt	Roger	70 1996	810-55 Comment on prop# 16-208	2865
Witt	Roger	70 1996	820-11(c) Comment on prop# 16-220	2866
Witt	Roger	70 1996	820-40(b) Comment on prop# 16-222	2867
Witt	Roger	70 1996	830 Comment on prop# 16-236	2868
Witt	Roger	70 1996	90-3 Comment on prop# 1-23	2869

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309 766 5945  
Telephone#

*Roger Witt*  
Signature (Required)

ADS000200

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 62 of 92

# **EXHIBIT 72**

EXHIBIT  
1257  
4-1-15

09/28/1998 17:12 3165856498 REINERT PROPANE PAGE 02

**FORM FOR COMMENTS ON NFPA REPORT ON PROPOSALS**  
**1999 Spring Association Technical Meeting**  
**FINAL DATE FOR RECEIPT OF COMMENTS: 5:00 pm EDST, October 2, 1998**

For further information on the standards-making process, please contact  
the Codes and Standards Administration at 617-834-7248  
For technical assistance, please call NFPA at 617-770-3000

FOR OFFICE USE ONLY  
Log #: 9  
Date Rec'd: \_\_\_\_\_

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

Date 9-28-98 Name Donald C. Reinert Tel. No. 316-585-6935

Company Reinert Propane inc.

Street Address 444 8th Ave. City Inman State Ks. Zip 67546

Please Indicate Organization Represented (if any) \_\_\_\_\_

1. a) NFPA Document Title \_\_\_\_\_ NFPA No. & Year 58 98 Edition \_\_\_\_\_

b) Section/Paragraph 3-2.7.5 LP GAS HANDBOOK 95 EDITION

2. Comment on Proposal No. (from ROP): \_\_\_\_\_

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

4. Comment (Include proposed new or revised wording, or identification of wording to be deleted): (Note: Proposed text should be in legislative format: i.e., use underscores to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (deleted wording). see attached copy)

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

does not address the height of the vent, as it does in the LP GAS HANDBOOK 95 Edition on page 204, Figure 3.14.

6.  This Comment 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 Comment is not original material, its source (if known) is as follows: \_\_\_\_\_

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Signature (Required) Donald C. Reinert

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

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269

ADS019172

09/28/1998 17:12

3165856498

REINERT PROPANE INC

PAGE 03

**3-2.7.5 The point of discharge from the required pressure relief device on regulating equipment installed outside of buildings in fixed piping systems shall be located at least 24" aboveground and not less than 3ft (1m) horizontally away from any building opening below the level of such discharge, and not beneath any building unless this space is well ventilated to the outside and is not enclosed for more than 50 percent of its perimeter. The point of discharge shall also be located not less than 5 ft (1.5m) in any direction away from any source of ignition, openings into direct-vent (sealed combustion system) appliances, or mechanical ventilation air intakes.**

ADS019173

JA02267

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 65 of 92

# EXHIBIT 73

EXHIBIT  
1258  
4-1-1502

Mar 15 00 11:28a

Polk Co Fire Departmen

P. 1

**FORM FOR COMMENTS ON NFPA REPORT ON PROPOSALS  
2000 NOVEMBER ASSOCIATION TECHNICAL MEETING  
FINAL DATE FOR RECEIPT OF COMMENTS: 5:00 pm EST, MARCH 31, 2000**

For further information on the standards-making process, please contact the Codes and Standards Administration at 617-984-7249

For technical assistance, please call NFPA at 617-770-3000

FOR OFFICE USE ONLY

Log #: 2

Date Rec'd: \_\_\_\_\_

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

(Note: In choosing the download option you intend to view the ROP/ROC from our Website; no copy will be sent to you.)

Date 3-14-06 Name Wesley W. Hayes Jr. Tel. No. 863 634-0383

Company Polk County Fire Services Division

Street Address Bld. 250/suite 1 City Barrow State Fl. Zip 32831

Please Indicate Organization Represented (if any) Florida Fire Chiefs Association

1. a) NFPA Document Title \_\_\_\_\_ NFPA No. & Year 58-1998

b) Section/Paragraph Sec. 3-2.5 / Paragraph 3-2.5.1

2. Comment on Proposal No. (from ROP): 58-107 Log #70

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

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

Cylinders shall NOT be permitted on roof tops.

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

Please see attached.

6.  This Comment 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.)

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Signature (Required) Wesley W. Hayes Jr.

PLEASE USE SEPARATE FORM FOR EACH COMMENT - NFPA Fax: (617) 770-3600

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269

ADS020867

Mar 15 DD 11:28a

Polk Co Fire Departmen

941 534 0385

p. 2

Attachment 58-107 log #70

Installation of propane tanks on roofs, brings on a multifaceted problem for the fire service, starting with the fire ground tactics. Approaching a propane tank is an extremely complex problem, acerbated by the situation being on a roof top. The proper compliment of manpower, equipment and water capacity are not the only concerns facing this sort of issue. Rescue, interior attack, and time are of extreme importance. Locating permanent tanks on roofs will have a direct adverse effect on all the issues mentioned. The proper strategy of firefighters will be immensely changed.

The speed required to set up elevated platforms and ladders for an attack on a roof top installation promotes recklessness. Valuable time is wasted, while the fire service is setting up equipment. The fire service is dedicated to responding to all types of dangers. However, placing firefighters on a roof, with no escape route is against everything learned in Hazardous Materials Training.

Propane is heavier than air. The approach of the fire service will obviously be lower than what the tank is. Firefighters will be required to go through the hazard to get to the problem. Once again, this is against everything learned in Hazardous Materials Training. There is no viable approach to a leaking tank on a roof.

In researching the NFPA guidelines, I could not find one document that spoke to propane leaks or fires located on roofs. I take this to mean that no information is together that the fire service can use to attack a tank located on a roof. Tactics have been written, researched, and papers written on above ground tanks, underground tanks and even tanker trucks. Nothing addresses the issue of an attack on roof top installations. Having no measure to go by, gives the fire service nothing to turn to for information. The lack of information alone nullifies the use of LP storage tanks on roof tops.

A propane tank on fire on a roof top, is a situation that no fire department wishes to contend with. Firefighters have the commitment of rescue in buildings. That commitment will be shortened due to the grave danger of the firemen and equipment. An interior attack would be accessed on minute by minute situation. Having a BLEVE over the heads of emergency responders would be a nightmare.

The incident of having to rescue firefighters on a roof that have been hurt during a BLEVE would be to the point of being totally unmanageable to handle. The involvement would introduce risks beyond what any firefighter should face.

3-14-2000  
Wesley W. Morgan

ADS020868



# **EXHIBIT 74**

## **(FILED UNDER SEAL)**

# **EXHIBIT 75**

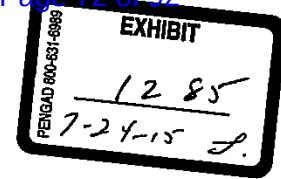
## **(FILED UNDER SEAL)**

# **EXHIBIT 76**

## **(FILED UNDER SEAL)**

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 71 of 92

# **EXHIBIT 77**



Approved 28 April 1999

**INTELLECTUAL PROPERTY POLICY OF ASTM**

**I. INTRODUCTION.**

- A. Section 1 of the ASTM Charter states in part: “The corporation is formed for the development of standards on characteristics and performance of materials, products, systems and services; and the promotion of related knowledge.”
- B. By-law 4.4 states: “The Board shall delegate to such committees and other groups those powers necessary for the fulfillment of their assigned function.”
- C. By-law 7.1 states: “The Board of Directors is empowered to promulgate procedures for the development and adoption of voluntary consensus standards ...”.
- D. The Standing Committee on Publications advises the Board of Directors on the formulation of publications policy. The Committee is responsible for the publications program of the Society except the acceptance for publication of ASTM’s standards. “The Committee administers the Society’s publications program ...”
- E. The Committee on Technical Committee Operations (“COTCO”) is responsible for the Regulations Governing ASTM’s Technical Committees 18.1, which state: “Documents [including standards and provisional standards], technical papers, reports, minutes, letters to the editor, and related materials should be released for publication only through ASTM’s Headquarters.”

ASTM103277

F. The Committee on Standards is responsible for the manual, "Form and Style for ASTM Standards." Regulation 10.7 of the Regulations Governing ASTM Technical Committees requires the current edition of *Form and Style for ASTM Standards* shall be followed in the writing of standards. Section F of that manual covers policies and procedures governing reference to patents, trademarks, similar marks, and reference to standards of other organizations in ASTM Documents.

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internet/website files and publications, multimedia, CD-ROM's, videotapes, audiotapes, and training programs.

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**A. Intellectual Property -- Standards.**

1. Standards and related documents developed by ASTM committees are copyrighted by ASTM as a "Work for Hire" as given in the U.S. Copyright Act. When an individual accepts appointment to a committee, the individual may also be asked to acknowledge that copyrights and all rights to all materials produced by ASTM committees are owned by ASTM and that ASTM may register the copyright in its own name.
2. If, in developing a standard or related document, a committee proposes to incorporate material from the copyrighted publication of another organization, the committee should request ASTM staff to obtain written permission from the publisher to reprint the material. Reference to a patented item should be avoided, but the ASTM patent policy (F3 of Form and Style for ASTM Standards) must be complied with. Regulations Governing ASTM Technical Committees, Form and Style for ASTM Standards (including but not limited to F3, F4 and F5), and ASTM staff should be consulted for guidelines if patented items are to be referenced in a standard or document.

3. ASTM standards may currently include copyrighted material reproduced under agreement with the copyright holder. Similarly, ASTM may permit others to reprint its material based on appropriate license agreements.
4. The provision stated in A.3 (above) apply to all forms, including, for example, both hard copy and electronic media.
5. ASTM registers its trademarks and service marks in the United States and in countries around the world. As a condition for membership, members agree that the marks are the property of ASTM at all times.
6. Guidance to committees on protection of ASTM's Intellectual Property rights and avoidance of infringement of the rights of others is provided by the ASTM staff.

**B. Intellectual Property Other Than Standards**

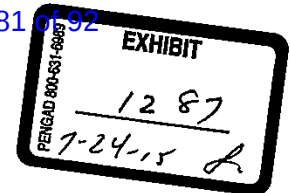
1. ASTM recognizes different ways to assign intellectual property rights:
  - a) When individual authors submit manuscripts for technical papers for publication by ASTM in an ASTM Special Technical Publication or ASTM Technical Journal, the author must sign an agreement whereby ownership of the material is assigned to ASTM. However, if the technical paper was prepared in the course of the author's employment by the U.S., Canadian, or British Governments, ASTM acknowledges that copyright does not exist.

- b) When ASTM contracts, subsidizes, or agrees with writers, authors, editors, or others to prepare or otherwise help create ASTM Intellectual Property other than technical papers as given in 1a above, a “Work for Hire” agreement must be signed in which copyright is assigned to ASTM. Copyright shall be granted and assigned exclusively to ASTM, including any and all rights protected by the Copyright Laws of the United States and all other countries as set forth in the respective agreement.
  2. When ASTM creates and distributes its Intellectual Property, ASTM may do so in whatever manner it decides. This will not, however, preclude the use of the Intellectual Property by authors and editors as set forth in the applicable agreements given in 1a and 1b above.
  3. ASTM will take reasonable precautions to preserve the property rights of an author of a manuscript not accepted for publication by ASTM.
- C. Licensing -- ASTM requires any individual or entity who desires to copy, reproduce, market, or distribute any of ASTM’s Intellectual Property (e.g. Standards, Draft Standards, Technical Papers, Manuals, Software, Training Course Materials, Logos) to execute an appropriate ASTM License Agreement. Such agreements will normally require, among other things, that licensees not modify the ASTM property and to make appropriate copyright acknowledgments and royalty payments. ASTM has no obligation to execute such agreements.

Adopted by the ASTM Board of Directors, 28 April 1999

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 80 of 92

# **EXHIBIT 78**



Originally Approved 28 April 1999

## INTELLECTUAL PROPERTY POLICY OF ASTM INTERNATIONAL ("POLICY")

**I. INTRODUCTION.** Ownership and use of ASTM's Intellectual Property is vital to the ability of ASTM to fulfill its mission. ASTM owns and maintains the rights to its Intellectual Property; it is the responsibility of ASTM's Board of Directors ("Board"), staff, members, participants and authorized resellers/distributors to protect these valuable assets and ensure that they are used in accordance with this Policy.

**A. Section 1** of the **ASTM Charter** states in part: "The corporation is formed for the development of standards on characteristics and performance of materials, products, systems and services; and the promotion of related knowledge."

**B. ASTM By-law 4.4** states: "The Board shall delegate to such committees and other groups those powers necessary for the fulfillment of their assigned function."

**C. By-law 7.1** states: "The Board of Directors is empowered to promulgate procedures for the development and adoption of voluntary consensus standards ..."

**D. The Standing Committee on Publications ("COP")** advises the Board on the formulation of publications policy. COP is responsible for the publications program of the Society except the acceptance for publication of ASTM's standards. "The Committee administers the Society's publications program ..."

**E. The Committee on Technical Committee Operations ("COTCO")** is responsible for the *Regulations Governing ASTM's Technical Committees ("Regulations")*, of which **17.1**, states: "Documents [including standards and provisional standards], technical papers, reports, minutes, letters to the editor, and related materials should be released for publication only through ASTM's Headquarters." **Regulation 15** governs the use or reference to a patent in an ASTM standard.

**F. The Committee on Standards ("COS")** is responsible for the manual, *Form and Style for ASTM Standards ("Form and Style")*. **Regulation 10.7** requires the current edition of *Form and Style* shall be followed in the writing of standards. **Section F** of that manual sets forth policies and procedures governing reference to patents, trademarks, similar marks, and reference to standards of other organizations in ASTM documents.

## II. TYPES OF INTELLECTUAL PROPERTY.

Intellectual property includes patents, trademarks, and copyrights and trade secrets, as defined in various federal and state statutes.

**A. Patent.** A patent is a property right granted by the government to individuals who invent new and useful inventions. Patents may be granted on any new and useful process, machine, manufactured article, composition of matter, or any new and useful improvements thereof. During a patent's limited term, its owner has the right to exclude others from making, using, selling, offering for sale or importing the patented invention into the United States.

**B. Copyright.** A copyright is a property right granted to the creators (i.e. authors) of original works which are fixed in a tangible medium of expression and which are independently created and possess some minimal degree of creativity. The exclusive rights provided by a copyright include protection against unauthorized printing, publishing, copying, selling, distributing, and/or performing of the copyrighted work. Copyrighted materials include not only traditional written works but also such things as computer

software, electronic files and publications, internet/website files and publications, multimedia, CD-ROM's, videotapes, audiotapes, and training programs.

**C. Trademark.** A trademark is either a word, phrase, symbol or design, or combination of words, phrases, symbols or designs, which identifies and distinguishes the source of goods or services from one party from those of others. A service mark is the same as a trademark except it identifies and distinguishes the source of a service rather than a product. Trademark rights may be used to prevent others from using a confusingly similar mark but not to prevent others from making the same goods or from selling them under a non-confusing mark.

### III. PURPOSE OF THIS POLICY.

The purpose of this Policy is to specify and protect the interests of ASTM in its intellectual property rights, and to describe the means by which ASTM has addressed protection of its rights and recognition of the intellectual property rights of others. ASTM's intellectual property rights and revenue generated by utilization of those rights enables ASTM to carry out its mission. All ASTM staff, members and others as given in IV.B, below, are expected to comply with this Policy.

### IV. SCOPE.

**A.** This Policy applies to any ASTM standard, draft standard or related document defined in *Regulation 2* (and any adjuncts to such standard or document), as well as to all other ASTM publications and related intellectual property, in all forms (including CD-ROM, software, multimedia, ASTM Internet Web Site, videotapes, audiotapes, and written), such as Special Technical Publications, Manuals, Technical Journals, Proficiency Test Program materials, Professional and Technical Training materials, as well as use of trademarks, service marks and Logos (collectively referred to here as "ASTM Intellectual Property"). (Many of these, as well as other examples of ASTM Intellectual Property, are listed in the ASTM Publications Catalog and related brochures. Logos are specifically covered by the *ASTM Logo Policy* as adopted by the ASTM Board on October 15, 1998.)

**B.** This Policy applies to all employees, members, officers, directors, participants, authorized resellers/distributors and others involved with the development, adoption, publication, use and/or distribution of ASTM Intellectual Property. For purposes of this Policy, "committee" or "technical committee" includes sub-committees and task groups.

**C.** Participants, members and authorized resellers/distributors acknowledge and agree that the adoption, enactment, reference, or incorporation of any of the ASTM Intellectual Property by any government or agency has not and will not effect, transfer, modify or alter the copyrights of the ASTM Intellectual Property in any way.

### V. POLICY.

**A.** All of ASTM's Intellectual Property rights must be protected, regulated and maintained, no matter how wide the information is distributed in print, electronically, or otherwise. Such protection is essential to ASTM's ability to fulfill its mission.

**B.** ASTM's owns and maintains the rights to its Intellectual Property.

**C.** ASTM reserves the right to copyright any of its print, electronic products, databases, audio/visual products and any other subject matter covered by the Copyright Act. This is intended to protect ASTM and its members from unauthorized copying and distribution of ASTM Intellectual Property.

D. By participating in any ASTM technical committee and/or participating in the creation, development and/or adoption of ASTM's Intellectual Property, participants and committee members acknowledge that the copyright to such Intellectual Property resides in ASTM. Such participants and committee members agree if requested by ASTM, to execute any and all documents deemed necessary or appropriate by ASTM to transfer and effectuate ownership of all such rights, including but not limited to copyrights, they may possibly have in ASTM Intellectual Property. The rights granted to ASTM by this assignment or transfer shall belong to ASTM in perpetuity.

E. All participants, members and staff agree to abide by and follow the requirements of the ASTM Charter, By-laws, *Logo Policy*, *Regulations Governing ASTM Technical Committees*, and *Form and Style for ASTM Standards*, as well as this Policy, as each may be amended from time to time, when creating, developing or utilizing ASTM Intellectual Property.

F. It is ASTM policy that the copyrights and other intellectual property rights of third parties be respected and not infringed by ASTM or any of its committees, or any employee, member or other person acting on behalf of ASTM.

G. It is ASTM policy that, if at all possible, proprietary and/or patented equipment, apparatus, material or information not be included in a standard. If such inclusion is necessary, **By-law 15** must be complied with.

H. ASTM registers its trademarks and service marks in the United States and in countries around the world. As a condition for membership, members agree that the marks are the property of ASTM at all times. Use of the marks is subject to, among other things, ASTM's *Logo Policy*.

#### **I. Electronic Networks.**

1. The Copyright Act provides copyright protection for certain works fixed in any tangible medium expression, now or later developed, from which they can be perceived, reproduced or otherwise communicated, either directly or with the aid of technology.

2. As more and more sophisticated technology becomes available, it may become increasingly difficult to determine and enforce ownership of ASTM Intellectual Property rights. Therefore, inputting, uploading, downloading, reproducing, or transmitting ASTM Intellectual Property without ASTM's prior written permission is prohibited.

### **VI. PROCEDURE.**

#### **A. Intellectual Property – Standards.**

1. Standards and related documents developed by or for ASTM committees are copyrighted by ASTM as set forth in the U.S. Copyright Act. When an individual or entity joins, volunteers for or accepts appointment to the Society or a committee, the individual or entity, as a condition of membership and participation, expressly acknowledges and agrees that copyrights and all rights to all materials produced by or for ASTM committees are owned by ASTM and that ASTM will register the copyright in its own name.

2. If, in developing a standard, other document or adjuncts to such standards or documents, a committee proposes to incorporate material from the copyrighted publication of another organization, the committee should request ASTM staff to obtain written permission from the publisher copyright holder to reprint the material. Reference to a patented item should be avoided if at all possible, but in all cases the **ASTM Patent Policy (By-law 15)** and **F3 of *Form and Style for ASTM Standards*** must be complied with. *Regulations Governing ASTM Technical Committees, Form and Style for ASTM Standards* (including but not limited to **F3, F4 and F5**), and ASTM staff should be consulted for guidance if patented items or trade/service marks are to be referenced in a standard or document.

3. ASTM standards may currently include copyrighted material reproduced under



agreement with the copyright holder. Similarly, ASTM may permit others to reprint its material based on appropriate license agreements. F3 of *Form and Style* must be followed when referencing standards of other organizations.

4. The provision stated in A.3 (above) applies to all forms of media, including, for example, both hard copy and electronic formats.

5. Guidance to committees and members on protection of ASTM's Intellectual Property rights and avoidance of infringement of the rights of others is provided by the ASTM staff.

6. Only [an officer] of ASTM can grant permission for the use, copying or distribution of ASTM Intellectual Property by others. Any requests for such permission must be forwarded to ASTM staff for consideration and further action.

#### **B. Intellectual Property Other Than Standards**

1. ASTM recognizes different ways to assign intellectual property rights:

a) When individual authors submit manuscripts for technical papers for publication by ASTM in an ASTM Special Technical Publication or ASTM Journal, the author must sign an agreement (**Author Agreement**) whereby ownership of the material is assigned to ASTM. However, if the technical paper was prepared in the course of the author's employment by the U.S., Canadian, or British Governments, ASTM acknowledges that copyright does not exist.

b) When ASTM contracts, subsidizes, or agrees with writers, authors, editors, or others to prepare or otherwise help create ASTM Intellectual Property other than technical papers as given in 1a above, a "**Work for Hire**" Agreement must be signed in which copyright is acknowledged to reside in ASTM or will be assigned to ASTM. Copyright shall be granted and/or assigned exclusively to ASTM, including any and all rights protected by the Copyright laws of the United States and all other countries as set forth in the respective agreement.

2. When ASTM creates and distributes its Intellectual Property, ASTM may do so in whatever manner it decides. This will not, however, preclude the use of the Intellectual Property by authors and editors as set forth in the applicable agreements described in 1a and 1b above.

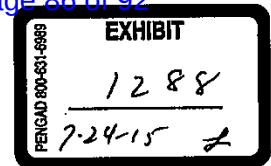
3. ASTM will take reasonable precautions to preserve the property rights of an author of a manuscript submitted but not accepted for publication by ASTM.

**C. Licensing.** ASTM may, at its sole discretion, assign, license or permit the use by others of its Intellectual Property. ASTM requires any individual or entity who desires to copy, reproduce, market, create a derivative work utilizing or distribute any of ASTM's Intellectual Property (e.g. Standards, Draft Standards, Adjuncts, Technical Papers, Research Reports, Manuals, Software, Training Course Materials, Logos) to execute an appropriate **ASTM License Agreement**. Such agreements will normally require, among other things, that licensees not modify the ASTM Intellectual Property and to make appropriate copyright acknowledgments and royalty payments. ASTM has no obligation to execute such agreements.

As amended by the ASTM Board of Directors, \_\_\_\_\_ 2003.

Case 1:13-cv-01215-TSC Document 122-5 Filed 12/22/15 Page 85 of 92

# **EXHIBIT 79**



Originally Approved 28 April 1999

## INTELLECTUAL PROPERTY POLICY OF ASTM INTERNATIONAL ("POLICY")

**I. INTRODUCTION.** Ownership and use of ASTM International's Intellectual Property (e.g. Standards, Draft Standards, Adjuncts, Certification Programs and related materials, Technical Papers, Research Reports, Manuals, Software, Training Course Materials and Logos collectively referred to as "ASTM IP") are vital to the ability of ASTM International to fulfill its mission. ASTM International owns and maintains the rights to its Intellectual Property; it is the responsibility of ASTM International's Board of Directors ("Board"), staff, members, and others who participate in the creation of ASTM IP (collectively "Participants"), as well as authorized resellers/distributors of ASTM IP, to protect these valuable assets and ensure that they are used in accordance with this Policy.

**A. Section 1** of the **ASTM International Charter** states in part: "The corporation is formed for the development of standards on characteristics and performance of materials, products, systems and services; and the promotion of related knowledge." Section 9 of the Charter also states, in part: "...the Corporation shall not engage in any activity which is not educational, technical, scientific or charitable..."

**B. ASTM International By-law 4.4** states: "The Board shall delegate to such committees and other groups those powers necessary for the fulfillment of their assigned function."

**C. ASTM International By-law 7.1** states: "The Board of Directors is empowered to promulgate procedures for the development and adoption of voluntary consensus standards ..."

**D.** The Standing Committee on Publications ("**COP**") advises the Board on the formulation of publications policy. COP is responsible for all publications programs of the Society except the acceptance for publication of ASTM International's standards.

**E.** The Committee on Technical Committee Operations ("**COTCO**") is responsible for the *Regulations Governing ASTM's Technical Committees* ("**Regulations**"), of which **Regulation 17.1** states: "Documents [including standards and provisional standards], technical papers, reports, minutes, letters to the editor, and related materials should be released for publication only through ASTM's headquarters."

**F. Regulation 10.7** requires that the current edition of the manual, *Form and Style for ASTM Standards* ("**Form & Style**") will be followed in the writing of standards (the Committee on Standards ("**COS**") is responsible for Form & Style). **Section F** of Form & Style sets forth policies and procedures governing, among other matters, reference to patents, trademarks, similar marks, and reference to standards of other organizations, in ASTM International documents. **Regulation 15** governs the use or reference to a patent in an ASTM International standard.

## II. TYPES OF INTELLECTUAL PROPERTY.

Intellectual property includes patents, trademarks and copyrights, as defined in various federal and state statutes.

**A. Patent.** A patent is a property right granted by the government to inventors of new and useful inventions. Patents may be granted on any new and useful process, machine, manufactured article, composition of matter, or any new and useful improvements thereof. During a patent's limited term, its owner has the right to exclude others from making, using, selling, offering for sale or importing the patented invention into the United States.

**B. Copyright.** A copyright is a property right granted to the creators (i.e. authors) of original works that are fixed in a tangible medium of expression and that are independently created and possess some minimal degree of creativity. The exclusive rights provided by a copyright include protection against unauthorized printing, publishing, copying, selling, distributing, and/or performing of the copyrighted work. Copyrighted materials include not only traditional written works but also such things as computer software, electronic files and publications, internet/website files and publications, multimedia, CD-ROMs, DVDs, videotapes, audiotapes, and training programs.

**C. Trademark.** A trademark is a word, phrase, symbol or design, or combination of words, phrases, symbols or designs, which identifies and distinguishes the source of goods or services from one party from those of others. A service mark is the same as a trademark except it identifies and distinguishes the source of a service rather than a product. Trademark rights may be used to prevent others from using a confusingly similar mark but not to prevent others from making the same goods or from selling them under a non-confusing mark.

### **III. PURPOSE OF THIS POLICY.**

The purpose of this Policy is to specify and protect the interests of ASTM International in its Intellectual Property rights, and to describe the means by which ASTM International has addressed protection of these rights and recognition of the intellectual property rights of others. ASTM International's Intellectual Property rights and revenue generated by utilization of those rights enable ASTM International to carry out its mission. All ASTM International staff, members, and others as stated in IV.B, below, are expected to comply with this Policy.

### **IV. SCOPE.**

**A.** This Policy applies to any ASTM International standard, draft standard or related document (hereinafter referred to as "ASTM Documents") defined in Regulation 2 of the Regulations Governing ASTM Technical Committees, and any adjuncts to such ASTM Documents, as well as to all other ASTM International publications and related property, in all forms (including CD-ROM, software, multimedia, ASTM Internet Web Site, videotapes, audiotapes) and written materials such as Certification Programs and materials, Special Technical Publications, Manuals, Technical Journals, Proficiency Test Program materials, Professional and Technical Training materials, as well as use of trademarks, service marks, certification marks and Logos (collectively part of ASTM IP). (Many of these, as well as other examples of ASTM IP, are listed in the ASTM International Publications Catalog and related brochures. Logos are specifically covered by the ASTM International Logo Policy as adopted and amended by the Board.)

**B.** This Policy applies to all ASTM International employees, members, officers, directors, Participants, resellers/distributors and others involved with the development, adoption, publication, use and/or distribution of ASTM IP. For purposes of this Policy, "committee" or "technical committee" includes subcommittees and task groups.

**C.** Participants, members, and authorized resellers/distributors acknowledge and agree that the adoption, enactment, reference, or incorporation of any of the ASTM IP by any government or agency has not and will not effect, transfer, modify or alter the copyrights of the ASTM IP in any way.

**V. POLICY.**

**A.** All of ASTM International's Intellectual Property rights must be protected, regulated and maintained, no matter how wide the information is distributed in print, electronically, or otherwise. Such protection is essential to ASTM International's ability to fulfill its mission and maintain its Intellectual Property. The Board of Directors has approved the Principles for the Use of ASTM Intellectual Property by Other Standards Organizations.

**B.** ASTM International owns and maintains the rights to its Intellectual Property.

**C.** ASTM International reserves the right to copyright any of its print, electronic products, databases, audio/visual products and any other subject matter covered by Copyright (pursuant to the US Copyright Act and International Copyright law). This is intended to protect ASTM International and its members from unauthorized copying and distribution of ASTM IP.

**D.** By participating in any ASTM International technical committee and/or participating in the creation, development and/or adoption of ASTM IP, Participants and committee members acknowledge that the copyright to such Intellectual Property resides in ASTM International. Each member agrees, by such participation and enjoyment of his/her annual membership benefits, to have transferred any and all ownership interest, including copyright, they possess or may possess in the ASTM IP to ASTM. If requested by ASTM International, such Participants and committee members agree to execute any and all documents deemed necessary or appropriate by ASTM International to transfer and effectuate ownership of all such rights, including but not limited to copyrights, they may possibly have in ASTM IP. The rights granted to ASTM International by this assignment or transfer shall belong to ASTM International in perpetuity.

**E.** All Participants, members and staff agree to abide by and follow the requirements of the ASTM International Charter, ASTM International By-laws, Regulations Governing ASTM Technical Committees, and Form and Style for ASTM Standards, ASTM International Logo Policy, as well as this Policy, as each may be amended from time to time, when creating, developing or utilizing ASTM IP.

**F.** It is ASTM International's policy, reflected in **Form & Style F5**, that the copyrights and other intellectual property rights of third parties be respected and not infringed by ASTM International or any of its committees, or any employee, member or other person acting on behalf of ASTM International.

**G.** It is ASTM International policy that, if at all possible, proprietary and/or patented equipment, apparatus, material or information not be included in a standard. If such inclusion is necessary, ASTM International's **Patent Policy (Regulation 15)** must be complied with.

**H.** ASTM International registers its trademarks and service marks in the United States and in countries around the world. As a condition of membership, members agree that the marks are the property of ASTM International at all times. Use of the marks is subject to, among other things, ASTM International's Logo Policy.

**I. Electronic Networks.**

**1.** The US Copyright Act (as well as International Copyright law) provides copyright protection for certain works fixed in any tangible medium expression, now or later developed, from which they can be perceived, reproduced or otherwise communicated, either directly or with the aid of technology.

**2.** As more and more sophisticated technology becomes available, it may become increasingly difficult to determine and enforce ownership of ASTM International's Intellectual Property rights; therefore, inputting, uploading, downloading, reproducing, or transmitting ASTM IP without ASTM International's prior permission (or in conformity with ASTM International's applicable License Agreements) is prohibited.

## VI. PROCEDURE.

### A. Intellectual Property -- Standards.

1. Standards and related documents developed by or for ASTM International committees are copyrighted by ASTM International, as set forth in the U.S. Copyright Act. When an individual or entity joins, volunteers for or accepts appointment to the ASTM International or an ASTM International committee, the individual or entity, as a condition of membership and participation, expressly acknowledges and agrees that copyrights and all rights to all materials produced by or for ASTM International committees are owned by ASTM International and that ASTM International will register the copyright and hold all intellectual property rights in its own name.

2. Copyrights and Patents in ASTM Standards. If, in developing an ASTM Document or adjuncts to such ASTM Documents, a committee proposes to incorporate material from the copyrighted publication of another organization, the committee should request ASTM International staff to obtain written permission from the copyright holder to reprint the material. Reference to a patented item should be avoided, if at all possible, but in all cases section **F5 of Form & Style** must be complied with. **Regulation 15** of the *Regulations Governing ASTM Technical Committees*, and *Form and Style for ASTM Standards* (including but not limited to sections **F3** and **F4**), as well as ASTM International staff, should be consulted for guidance if patented items or trade/service marks are to be referenced in an ASTM Document.

3. ASTM International standards may currently include copyrighted material reproduced under agreement with the copyright holder. Similarly, ASTM International may permit others to reprint its material based on appropriate license agreements. Section **F5** of Form and Style must be followed when referencing standards of other organizations.

4. The provision stated in A.3 (above) applies to all forms of media, including, for example, both hard copy and electronic formats.

5. Guidance to committees and members on protection of ASTM IP and avoidance of infringement of the rights of others is provided by the ASTM International staff.

6. Permission to Use ASTM IP. Only the President of ASTM International or the Vice President of Publications of ASTM International (in commercial transactions) can grant permission for the use, copying or distribution of ASTM IP by others. Any requests for such permission must be forwarded to ASTM International staff for consideration and further action.

### B. Intellectual Property Other Than Standards

1. ASTM International recognizes different ways to assign intellectual property rights:

a) When individual authors submit manuscripts of technical papers for publication by ASTM International, the author must sign an agreement (Author Agreement) whereby ownership of the material is assigned to ASTM International; however, if the technical paper was prepared in the course of the author's employment by the U.S., Canadian, or British Governments, ASTM acknowledges that copyright does not exist.

b) When ASTM International contracts, subsidizes, or agrees with writers, authors, editors, or others to prepare or otherwise help create ASTM IP other than technical papers as given in 1a above, a "Work for Hire" Agreement must be signed in which copyright is acknowledged to reside in ASTM International or will be assigned to ASTM International. Copyright shall be granted and/or assigned exclusively to ASTM International, including any and all rights protected by the copyright laws of the United States and all other countries as set forth in the respective agreement.

2. When ASTM International creates and distributes ASTM IP, ASTM International may do so in whatever manner it decides. This will not, however, preclude the use of the Intellectual Property by authors and editors as set forth in the applicable agreements described in 1a and 1b above.



3. ASTM International will take reasonable precautions to preserve the property rights of an author of a manuscript submitted, but not accepted, for publication by ASTM International.

C. Licensing. ASTM International may, at its sole discretion, assign, license or permit the use by others of ASTM IP. ASTM International requires any individual or entity who desires to copy, reproduce, market, create a derivative work utilizing or distribute any of ASTM International's Intellectual Property (e.g. Standards, Draft Standards, Certification Programs and materials, Adjuncts, Technical Papers, Research Reports, Manuals, Software, Training Course Materials, Certification Marks and Logos) to execute an appropriate ASTM License Agreement. Such agreements will normally require, among other things, that licensees not modify the ASTM IP and that they make appropriate copyright acknowledgments and royalty payments. ASTM International has no obligation to execute such agreements.

As amended by the ASTM International Board of Directors, October 28, 2003 and April 13, 2010





# **EXHIBIT 80**

## **(FILED UNDER SEAL)**

Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 1 of 231

# EXHIBIT 81

# Organizational Membership Directory

Alphabetic List:

A-K

L-Z

A

B

C

D

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F

G

H

I

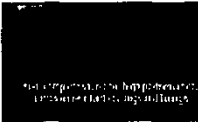
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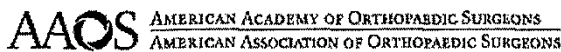
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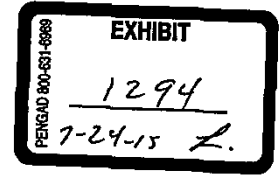


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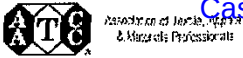
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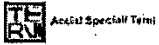
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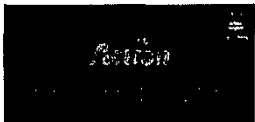


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- ADVANCED GEOENVIRONMENTAL, INC.



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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 5 of 231

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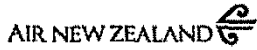
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 7 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 11 of 231

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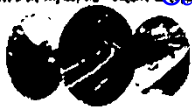
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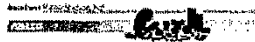
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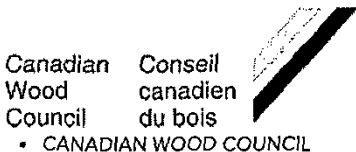
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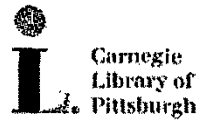
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 22 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 25 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 31 of 231

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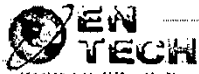
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 36 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 39 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 42 of 231

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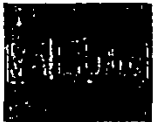
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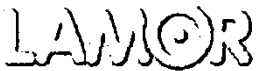
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 60 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 62 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 63 of 231

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- Visit Website [Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 68 of 231](#)



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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 69 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 70 of 231

- Visit Website
- More Information



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- More Information



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- More Information



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- More Information



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- More Information



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- More Information



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- More Information



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- More Information



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- More Information



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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 73 of 231

- Visit Website



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- More Information



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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 75 of 231

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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 76 of 231

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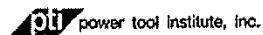
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 82 of 231

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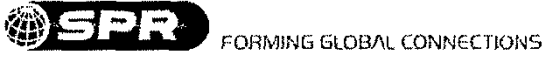
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 83 of 231

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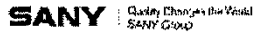
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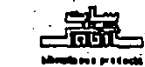
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 87 of 231

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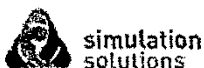
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 90 of 231

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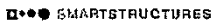
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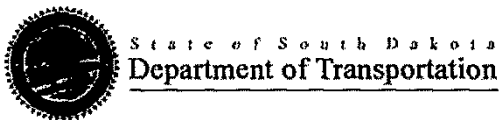
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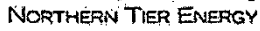


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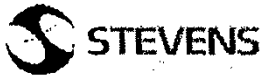
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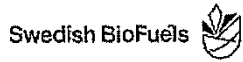
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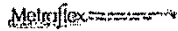
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 98 of 231

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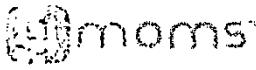
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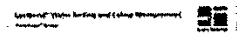
• More Information [Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 99 of 231](#)



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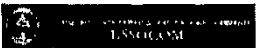
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 108 of 231

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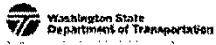
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Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 110 of 231

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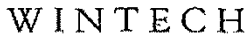
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# **EXHIBIT 82**

## **(FILED UNDER SEAL)**

**EXHIBIT 83**  
**(FILED UNDER SEAL)**

# **EXHIBIT 84**

## **(FILED UNDER SEAL)**

# **EXHIBIT 85**

## **(FILED UNDER SEAL)**

# **EXHIBIT 86**

## **(FILED UNDER SEAL)**

# **EXHIBIT 87**

## **(FILED UNDER SEAL)**



**EXHIBIT 88**  
**(FILED UNDER SEAL)**

# **EXHIBIT 89**

## **(FILED UNDER SEAL)**

# **EXHIBIT 90**

## **(FILED UNDER SEAL)**

# **EXHIBIT 91**

## **(FILED UNDER SEAL)**

# **EXHIBIT 92**

## **(FILED UNDER SEAL)**

**EXHIBIT 93**  
**(FILED UNDER SEAL)**

# **EXHIBIT 94**

## **(FILED UNDER SEAL)**

Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 127 of 231

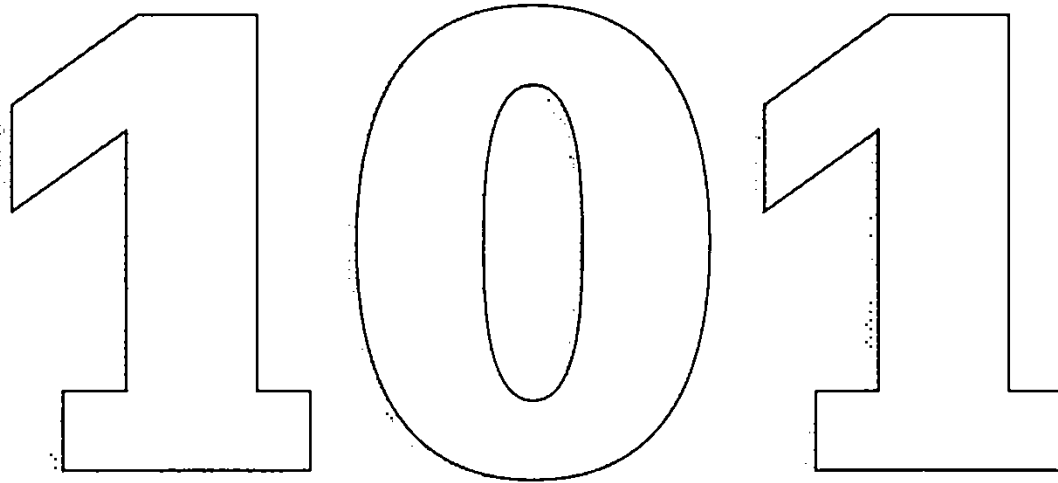
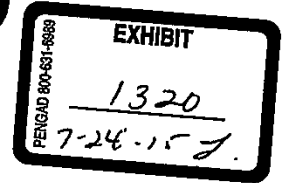
# EXHIBIT 95



# HowTo

Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 128 of 231

# STANDARDS WRITING



## NEW STANDARDS

/by Felicia Quinzi/

YOUR INDUSTRY OR SERVICE SECTOR  
NEEDS A NEW STANDARD, BUT  
WHERE DO YOU BEGIN TO  
GET IT WRITTEN AND  
APPROVED?

READ  
ON.



# W

riting a new standard can seem a daunting task, especially if you have never before thought of yourself as an author. However, ASTM, a consensus organization that wholly promotes collaborative efforts, offers many tools to get you started and see you through until the end or, at least, until someone votes negative.

# ToolBox

**“Search for Individual Standards” Page:** To find out if a standard is already developed in the area you want, go to [www.astm.org](http://www.astm.org) (click on the [ASTM Store](#), then on [Search for Individual Standards](#) and do a keyword search).

**“Request for the Development of a New Standard” Form:** Go to [www.astm.org](http://www.astm.org) (click on [Technical Committees/Membership](#), then on [Standards Development Tools](#)) or contact your staff manager.

**Form and Style for ASTM Standards:** Go to [www.astm.org](http://www.astm.org) (click on [Technical Committees/Membership](#), then on [Standards Development Tools](#)) or contact your staff manager.

**Interactive Standards Development Forums:** To develop standards online, see the ASTM Forums Web page (<http://astmforums20.micronexx.com>).

## WHAT YOU WILL NEED:

- ▶ New Standard Development request form (Figure 1, see page 22);
- ▶ *Form and Style for ASTM Standards*, a.k.a. the “Blue Book”;
- ▶ Input from other experts;
- ▶ Access to the Internet (optional);
- ▶ Instructions for establishing an interactive forum on the ASTM Web site (optional);
- ▶ Your staff manager;
- ▶ A No. 2 pencil or a PC;
- ▶ A comfortable chair;
- ▶ Patience.

## HOW GOOD IS MY IDEA?

The first step is to introduce the idea for a new standard to the appropriate subcommittee. The concept must fall under the subcommittee’s scope, first and foremost. The subcommittee should agree that the proposed activity is worthwhile, feasible, and needed. More importantly, verify that the standard you hope to write does not already exist under the jurisdiction of another committee or organization. Avoid duplication of effort and jurisdictional disputes!

To do this, do a keyword search of all approved ASTM standards on the ASTM Web site (see “Search for Individual Standards” in the ToolBox). If a standard turns up that sounds similar

to the one you are about to write, contact your staff manager for further information. In addition, your staff manager can assist in finding out whether your or another committee has a work in progress on a similar or related subject by searching draft standards under development in ASTM.

## NEW STANDARD DEVELOPMENT FORM

The best way to ensure that an activity is appropriate is to complete the “Request for the Development of a New Standard” form (see ToolBox).

The subcommittee having jurisdiction over the proposed project should approve the development of the activity and the subcommittee chairman should subsequently sign the form. If you are between meetings, the chairman may sign the form on the assumption that there will be approval of the activity at the next meeting.

Filling out the form will trigger the crucial steps to be taken, such as (1) establishing a well-defined scope or objective; (2) identifying those who have expertise in a given area; (3) identifying those who need to be

made aware of, or invited to participate in, a given activity; (4) identifying the end users; (5) creating a task group representing all interests; (6) enabling the subcommittee to track a task group’s efforts; and (7) publicity.

Ideally, the task group would be formed under the subcommittee with

**The best way to ensure that an activity is appropriate is to complete the “Request for the Development of a New Standard” form.**

a manageable number of members (approximately four to six) representing a balance of interests. Should this task group need to look outside of the ASTM subcommittee or committee for expertise, other members or individuals should be invited to participate.

*NOTE—Task group members are not required to be members of ASTM.*

## JOINT TASK GROUPS

Coordination and cooperation are two of the most important ele-

(CONTINUED ON PAGE 23)



**REQUEST FOR THE DEVELOPMENT OF A NEW STANDARD**

(COMPLETION OF THIS FORM IS REQUIRED FOR THE FORMATION OF A TASK GROUP TO DEVELOP A NEW STANDARD. SOME OF THE INFORMATION MAY NOT BE NECESSARY OR APPROPRIATE AS DETERMINED BY YOUR SUBCOMMITTEE.)

**SUBCOMMITTEE DESIGNATION** (e.g. A01.22): \_\_\_\_\_ DATE: \_\_\_\_\_

TASK GROUP CHAIRMAN: \_\_\_\_\_

PHONE: ( \_\_\_\_\_ ) \_\_\_\_\_ EMAIL: \_\_\_\_\_

ADDRESS (\* only if non-ASTM member): \_\_\_\_\_

PROPOSED DRAFT DOCUMENT TITLE: \_\_\_\_\_

PROPOSED SCOPE: \_\_\_\_\_

IMPORTANT KEYWORDS that are not included above: \_\_\_\_\_

PROJECTED TARGET DATE for first subcommittee ballot: \_\_\_\_\_

EXPLAIN why the standard is needed and how it will be used (i.e. adopted by government agency, procurement, quality assurance): \_\_\_\_\_

List other ASTM Committees or key outside organizations that you feel should be informed of this activity: \_\_\_\_\_

LIST TASK GROUP MEMBERS ALONG WITH THEIR AFFILIATIONS:

NAME	AFFILIATION	NAME	AFFILIATION
1		6	
2		7	
3		8	
4		9	
5		10	

Are you interested in utilizing the ASTM Web-Based Interactive Standards Development Forums? (please check one)  Yes  No

APPROVED AT SUBCOMMITTEE MEETING ON: \_\_\_\_\_ (date)

OR

APPROVED BY SUBCOMMITTEE CHAIRMAN ON: \_\_\_\_\_ (date)

**NOTE:** If approved by the chairman between meetings, the task group will be approved by the subcommittee at their next meeting.

SIGNATURE OF SUBCOMMITTEE CHAIRMAN: \_\_\_\_\_

*By completing this form, the task group chairman acknowledges that all copyrights to this document, as a draft and as an approved ASTM standard, are the sole and exclusive property of ASTM, in accordance with the Intellectual Property policies of the Society.*

SIGNATURE OF TASK GROUP CHAIRMAN: \_\_\_\_\_

➡ FORWARD COMPLETED FORM TO YOUR COMMITTEE STAFF MANAGER

10/99

MARCH 2000 // ASTM STANDARDIZATION NEWS

ments of standards development and maintenance. By coordinating openly with other members, a task group can bring together key stakeholders and receive input at the start of a project, rather than later on when much time and energy has been expended.

Furthermore, when a subcommittee identifies other subcommittees that should be represented on the task group, the subcommittee chairman should inform his or her staff manager. The manager will initiate coordination between the two or more subcommittees. Then, additional members will join the task group to represent the interests of the committees to which they belong. We call this a "joint task group." This could also be the case for representatives from organizations other than ASTM. The joint task group is a vehicle for individuals to communicate their interests.

**PUBLICIZE!**

If you are uncertain as to whether another committee or organization is interested in or may be impacted by your activity, publicize! Your staff manager can assist you with contacting the ASTM Corporate Communications Department.

**HOW WILL THE STANDARD BE USED?**

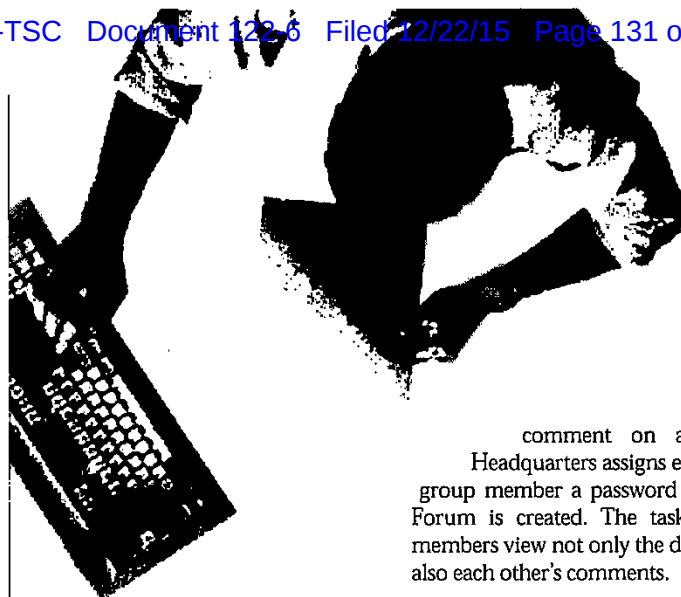
Doing the research up front will save time and energy. Ask questions of your subcommittee, such as: "Is it possible that the standard will be cited in a building code?" "Will a government agency or regulatory body adopt the standard?"

**START WRITING**

Start by writing "Draft #1" at the top of your first page. It is likely that there will be more than one or two drafts of the document and it is always interesting to keep track.

**WHAT KIND OF STANDARD AM I?**

Now is the time to reach for your Blue Book (*Form and Style for ASTM Standards*) and dust it off, or download the latest version (October 1999) from the Web site (see ToolBox). Review the definitions of test method,



**HOW TO**

comment on a draft.

Headquarters assigns each task group member a password when a Forum is created. The task group members view not only the draft, but also each other's comments.

**YOUR FIRST DRAFT GOES TO BALLOT**

A first draft typically goes to a subcommittee ballot and receives its first round of comments and negatives. This is actually very positive and productive for the task group.

If, as mentioned above, a joint task group is working on the draft because another subcommittee needs to be involved, an "informational ballot" is an option. In addition to balloting within the subcommittee with jurisdiction, a different subcommittee may receive an informational ballot. Comments received on the informational ballot are handled in the same manner as a negative or comment on the official ballot.

**A STANDARD IS BORN**

Maybe it seemed as though there were a few obstacles. Perhaps you thought there was too much paperwork. However, the draft is approved and published as an ASTM standard. The draft will have become a consensus document created, refined, and agreed upon by the experts in the industry. The standard can be used worldwide in the international marketplace and adopted by countries in places where you have never been. We think that it's worth it. //

**Felicia Quinzi is a manager in the Technical Committee Operations Division.**

specification, practice, guide and classification. By determining which type of standard you are writing, you will know which mandatory sections must be included in your document.

Once you know which sections you need, you can start with an outline, such as (in the case of a test method):

- ▶ Title;
- ▶ Scope—purpose of the standard, general information;

**The draft will have become a consensus document created, refined, and agreed upon by the experts in the industry.**

- ▶ Significance and Use—how the standard is to be applied, specific information;
- ▶ Apparatus;
- ▶ Materials;
- ▶ Procedure;
- ▶ Keywords for indexing purposes.

**USING THE INTERNET**

ASTM encourages the use of the Interactive Standards Development Forums, a Web-based standards development tool to which you have access 24 hours a day, seven days a week (see ToolBox). Through the Forums, a task group chairman can designate who has the ability to review and

Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 132 of 231

# **EXHIBIT 96**

Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 133 of 231

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

AMERICAN SOCIETY FOR TESTING AND  
MATERIALS d/b/a ASTM INTERNATIONAL;

NATIONAL FIRE PROTECTION  
ASSOCIATION, INC.; and

AMERICAN SOCIETY OF HEATING,  
REFRIGERATING, AND AIR CONDITIONING  
ENGINEERS, INC.,

Plaintiffs/Counter-defendants,

v.

PUBLIC.RESOURCE.ORG, INC.,

Defendant/Counterclaimant.

Case No. 1:13-cv-01215-TSC-DAR

**EXPERT REPORT OF JAMES R. FRUCHTERMAN**

Case 1:13-cv-01215-TSC Document 122-6 Filed 12/22/15 Page 134 of 231

### Table of Contents

Introduction ..... 1

Background and Qualifications ..... 2

What Does Accessibility Mean for a Blind Person? ..... 3

Overview and Summary of Opinions ..... 5

Testing the National Fire Protection Association Website’s Accessibility ..... 7

Testing the American Society of Heating, Refrigerating and Air-Conditioning Engineers Website’s  
Accessibility ..... 10

Testing the American Society for Testing and Materials Website’s Accessibility ..... 12

Testing the Public.Resource.Org Website’s Accessibility ..... 14

## Introduction

As an expert in accessibility of written materials for people who have disabilities that affect using standard print (people who are print disabled), I have been retained by Public.Resource.Org to evaluate the accessibility of certain online content available on the websites of the plaintiffs and the defendant in this case. As someone dedicated to improving accessibility for the benefit of people with disabilities and in the public interest, I agreed to evaluate the accessibility to people who are blind of specific commonly used standard documents located on different websites.

This expert report is a summary of certain opinions that I intend to give, if asked, at trial regarding the accessibility of documents on various websites to people who are blind. This report also states the bases for my opinions, and it discloses the data or other information considered in forming those opinions. I reserve the right to change or supplement this report if additional evidence comes to my attention, and to prepare demonstratives and/or exhibits to illustrate or explain my opinions, as appropriate.

A copy of my curriculum vitae, including a list of my publications and presentations, is **Exhibit A** to this report. I provide my expertise in this case pro bono, and I am not receiving compensation for my time researching, writing this report, or testifying. I previously served as an expert in *The Authors Guild, Inc. et al. v. HathiTrust, et al.*, Case No. 1:11-cv-06351-HB (S.D.N.Y.) (case filed September 12, 2011), although I did not testify in that case. I have not given deposition or trial testimony in the past four years.



## Background and Qualifications

I serve as Founder and Chief Executive Officer of Benetech, a nonprofit dedicated to creating new technology solutions that serve humanity and empower people to improve their lives. In 1980 I earned a B.S. in Engineering and an M.S. in Applied Physics from California Institute of Technology. I co-founded Calera Recognition Systems in 1982. Calera developed optical character recognition (OCR) technology that allowed computers to read virtually all printed text.

In 1989, I founded Arkenstone, a nonprofit social enterprise, which produced reading machines for the print disabled community based on the Calera technology, and was at one time the largest maker of affordable reading systems for the blind. The Arkenstone product line was sold in 2000 and the resulting capital funded the next phase of Arkenstone under its new name, Benetech. I have been the CEO of Benetech/Arkenstone since 1989.

I have served on three U.S. federal government advisory committees for disability issues: the Section 255 Telecommunications Access Advisory Committee, the Section 508 Electronic Information and Technology Access Advisory Committee, and the Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities. I have received numerous other awards and recognition for my work making print materials accessible to people who are blind or otherwise print disabled. In 2006 I received a MacArthur Fellowship. I was named an Outstanding Social Entrepreneur in 2003 by the Schwab Foundation and have frequently participated in the World Economic Forum Annual Meetings in Davos, Switzerland. Benetech received the Skoll Award for Social Entrepreneurship under my leadership. I also received the Migel Medal from the American Foundation for the Blind, the Robert F. Bray Award from the American Council of the Blind, and the American Library

Association's Francis Joseph Campbell Award in recognition of my successful efforts to make literary works more accessible to people who are blind or visually impaired.

### **What Does Accessibility Mean for a Blind Person?**

Accessibility is usually defined in a functional way: can a person with a disability independently access the same information and perform the same tasks as a person without a disability? When it comes to accessing materials traditionally available as print, such as standards, there are many groups of print disabilities. The most severe is blindness, where a person cannot perceive the printed text at all. The next is vision impairment, where a person generally cannot perceive the text directly or with corrective lens, but may be able to use magnifiers of different types to read the text. Another group is learning disabilities that interfere with reading, such as dyslexia. A closely related group of disabilities involve brain injuries that affect reading or the retention of material read. Another group is physical disabilities that interfere with the holding or seeing of books or the turning of pages.

In this report, I focused on the accessibility challenges that would be experienced by blind people, because they are generally the most severe print disabilities. The other groups of people with print disabilities use similar technologies to access print (such as having it read aloud), and experience similar challenges as blind people. In the accessibility field, it is generally understood that if you make information accessible to a blind person, it will probably also meet the accessibility needs of the great majority of people with other print disabilities.

The most common technology used by a blind person for accessibility is called a screen reader. As the name suggests, a screen reader is a program that runs on a personal computer or a smartphone that reads the information on the screen aloud (using a computer-synthesized voice)

to a blind person. The screen reader runs “on top of” other programs, figuring out not only what text is on the screen, but also the controls that are displayed: items such as buttons, menus, text-entry boxes and the like. Because of the amount of information on a complete screen, and its complexity, blind people need to be able to focus on the most important information so that they do not waste time listening to everything on the screen.

For the purpose of this report, measuring the accessibility of standards, I am assuming that the blind user is using a screen reader on top of a web browser on a personal computer. Based on the information the screen reader can glean from the web pages displayed on the screen, can a blind person locate the standard and read it?

The accessibility tasks I tested were designed to assess whether a blind user with basic assistive technology skills could perform the same kind of tasks one might expect a user without a disability to perform in accessing a given standard, without requiring the intervention of a third party. This functional approach is the most common method of assessing accessibility.

The specific tasks I investigated were:

- Could a blind user with basic assistive technology skills independently access a specific standard of interest?
- Could a blind user independently read the entire standard using assistive technology?
- Could a blind user independently navigate to a specific place in the standard and read the content in that place?
- Could a blind user independently do a full text search and find specific mentions of terms of interest?

I conducted these tests on a number of the same standards available on the Public.Resource.Org website and in the free reading sections of the websites of the National Fire Protection

Association (NFPA), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and the American Society for Testing and Materials (ASTM). I primarily used the Window-Eyes screen reading software to perform my tests, but I also confirmed some of my observations with the JAWS screen reading program (these are the two most commonly-used screen reading programs by people who are print disabled). In order to further confirm my observations, I was assisted by an engineer who is blind and who is a skilled daily user of screen reader software. This engineer used the JAWS screen reader to confirm that as an individual who is print disabled and a regular user of a screen reader program, he was unable to access the website and several specific standards that I had found to be inaccessible to people who are print disabled.

## **Overview and Summary of Opinions**

Having reviewed the accessibility of the same standards content rendered by Public.Resource.Org and those of the free access options provided by the NFPA, ASHRAE and ASTM, it is my opinion that Public.Resource.Org currently provides the only accessible option for people/citizens with print disabilities to access these standards.

Based on my extensive experience with content accessibility, approaches for “free access” that make it impossible to copy text generally make it impossible for the assistive technology used by people with print disabilities, especially blind people, to read the text aloud, present it visually in more accessible manners, or make the text available in braille.

Technological mechanisms that are designed to stop copying generally have the unfortunate side effect of locking out people with print disabilities from the ability to read the material.

The versions of the standards on the NFPA, ASHRAE, and ASTM free reading websites are not available in a way that is accessible to blind users. First, the NFPA and ASTM websites require registration before a user can access free standards on their websites. Although a blind user may be able to register on the ASTM website, a person who is blind would not be able to independently gain access to the NFPA standards because the NFPA website uses a registration process that employs buttons without proper markings for the blind to perceive them with accessibility software. Second, the free reading websites for NFPA, ASHRAE, and ASTM each display their standards in separate windows that prevent assistive technology from perceiving the words in those windows, meaning that that blind people would not be able to tell the difference between the standards and a blank window. These websites do not allow the text of the standard to be read aloud by a screen reader; the navigation controls do not work with a screen reader, so blind people are unable to navigate to a specific location in the standard; and the text search function does not work with a screen reader.

In contrast, the versions of the standards on the Public.Resource.Org website are available in a way that is accessible to blind users. Firstly, the Public.Resource.Org website does not require a registration process before a user can access the files containing the standards; the files are directly available to users. Secondly, many of the standards on the Public.Resource.Org website are available in well-structured HTML, a highly accessible format that allows blind users similar quality of access as that enjoyed by a person without a disability accessing a print version of the standard (or a locked digital version). Although some standards are available only in PDF format on the Public.Resource.Org website, those documents are accessible through extra steps such as optical character recognition. To summarize, it is my opinion that the standards on the Public.Resource.Org website are accessible to the blind through screen reader software, whereas

the standards on the free reading portions of the NFPA, ASHRAE, and ASTM websites are not accessible to the blind through screen reader software. Furthermore, it is my opinion that people with other print disabilities, such as vision impairment, dyslexia, brain injury and physical disabilities, would find the standards on the Public.Resource.Org accessible with screen readers and other assistive technology, whereas the standards on the free reading portions of the NFPA, ASHRAE, and ASTM websites would not be accessible to the great majority of people with these types of print disabilities.

### **Testing the National Fire Protection Association Website's Accessibility**

I performed my test of the NFPA, ASHRAE, and ASTM websites in two phases. The first phase was an investigation of whether a blind or visually impaired person can gain access to a standard on the NFPA website by going through a process of obtaining free access while using a screen reading program. On the NFPA website it appears that users must register and agree to terms of use before accessing any of the free standards on the website. The results of the test are that a blind user would not be able to independently sign up for a free account on the NFPA website because the registration process involves elements that cannot be perceived by screen reading software.

The accessibility standard in common use for websites is the Web Content Accessibility Guidelines (WCAG), published by the World Wide Web Consortium, the main standards body for technology related to the Web. A copy of the WCAG is **Exhibit C**. (As with other World Wide Web Consortium standards, the WCAG standard is freely available at no cost on the World Wide Web Consortium website, in HTML, as stated in the World Wide Web Consortium Document License, **Exhibit D**). The very first element in the WCAG standard specifies that

“information and user interface components must be presentable to users in ways they can perceive.” The key recommendation for how to address this need is to “provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.” The two easiest ways to meet this requirement are to present textual content as text and to add text labels to non-text content. For example, the text in a regular web page is highly accessible: the screen reader software can simply grab each word, sentence and paragraph and read it aloud (or make it larger, or provide it to a braille device). Screen readers understand web page structure, so links and headers are identified as such when they are read aloud. A visual button on a page can easily have a text label as part of the web page that identifies its function (for example, “I agree”). A screen reader encountering such a button on a web page would simply say aloud “Button, I agree,” and the screen reader provides a blind person with a way to activate the button using the keyboard (because blind people avoid using mice for obvious reasons).

These fundamental requirements for accessibility are the ones that the NFPA website fails to meet. Rather than cataloging the many parts of the WCAG accessibility standards the NFPA website fails to meet, I will focus on two key items. The first is that a blind person trying to sign up for a free access account needs the assistance of a sighted person to sign up. This is because, for instance, the NFPA website uses a visual button for the “I Agree” function on its registration page, and this visual button fails to have a text label, meaning that a blind person using a screen reader would not know what the button is for. A blind person who arrived at the point where he or she needed to assent to the terms and conditions after some effort would not be able to tell what to do, or which button to push, because there is no text equivalent attached to the “I AGREE” button. On the NFPA website, the screen reader knows that there are buttons but