

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. Ftp server address: <ftp.ashrae.org>, directory: [public.review.comment](ftp.ashrae.org/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. You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 01-30-2006

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. Ftp server address: <ftp.ashrae.org>, directory: [public.review.comment](ftp.ashrae.org/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. You must indicate which public review draft or drafts you are commenting on in your email.

Rev. 01-30-2006

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

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"/> Engineer/Contractor/
Architect
<input type="checkbox"/> General Interest
<input type="checkbox"/> Producer/Vendor
<input type="checkbox"/> User | <input type="checkbox"/> Design/Builders
<input type="checkbox"/> General Interest
<input type="checkbox"/> Manufacturer
<input type="checkbox"/> Own/Oper/Occ | <input type="checkbox"/> Design/Builders
<input type="checkbox"/> General Interest
<input type="checkbox"/> Manufacturer
<input type="checkbox"/> Own/Oper/Occ | <input type="checkbox"/> Compliance
<input type="checkbox"/> Designer
<input type="checkbox"/> General Interest
<input type="checkbox"/> Industry
<input type="checkbox"/> User
<input type="checkbox"/> Utility | <input type="checkbox"/> Compliance
<input type="checkbox"/> General Interest
<input type="checkbox"/> Industry
<input type="checkbox"/> Producer
<input type="checkbox"/> User
<input type="checkbox"/> Utility | <input type="checkbox"/> Flight Personnel
<input type="checkbox"/> General Interest
<input type="checkbox"/> Manufacturer
<input type="checkbox"/> Owner/Operator
<input type="checkbox"/> Passenger |
- 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:

- an intent to participate in a constructive way to achieve the Title, Purpose, and Scope (TPS) of the standard
- to provide an individual with appropriate technical or scientific qualifications to serve as their representative, and if
- to encourage the constituency of the organization to provide input and comments to the organization's representative,
- to provide feedback to the constituency of the organization on the disposition of input and comments submitted by the organization's representative,
- 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 or fax to 678 539-2125

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; 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.

ASHRAE0001616

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.

EXHIBIT 46



Shaping Tomorrow'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](#)

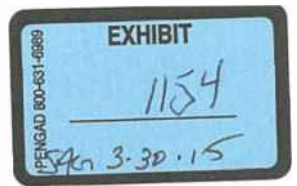
In order to submit a comment you must agree to the following by entering your name in the box below and clicking the "I Agree" button.

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

EXHIBIT 47



https://osr.ashrae.org/sitepages/CommentAgreement.aspx?DocItemID=1176&DocListID=4e863a5d-1a20-40e... Google

ASHRAE Staff Resources (7 unread) - sreinic... Standards, Research &... https://www.mypayme... (17 unread) - sreinic... ISO/IEC 17025:2005 G... Most Visited



- view All Site Content
- My Comments
- Reports
- Admin Report
- Online Public Review Drafts
- Documents
- Public Review Draft Standards
- Standards Actions
- Older Standards Actions
- Jobs
- Notes
- People and Groups
- Standards Web Page

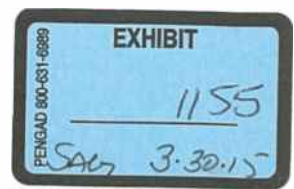
In order to submit a comment you must agree to the following by entering your name in the box below and clicking the "I Agree" button.

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

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 _____

**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.

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

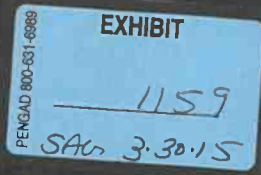
Date

EXHIBIT 50

Marketing Task Group

TG Meeting Report

June 26, 2004



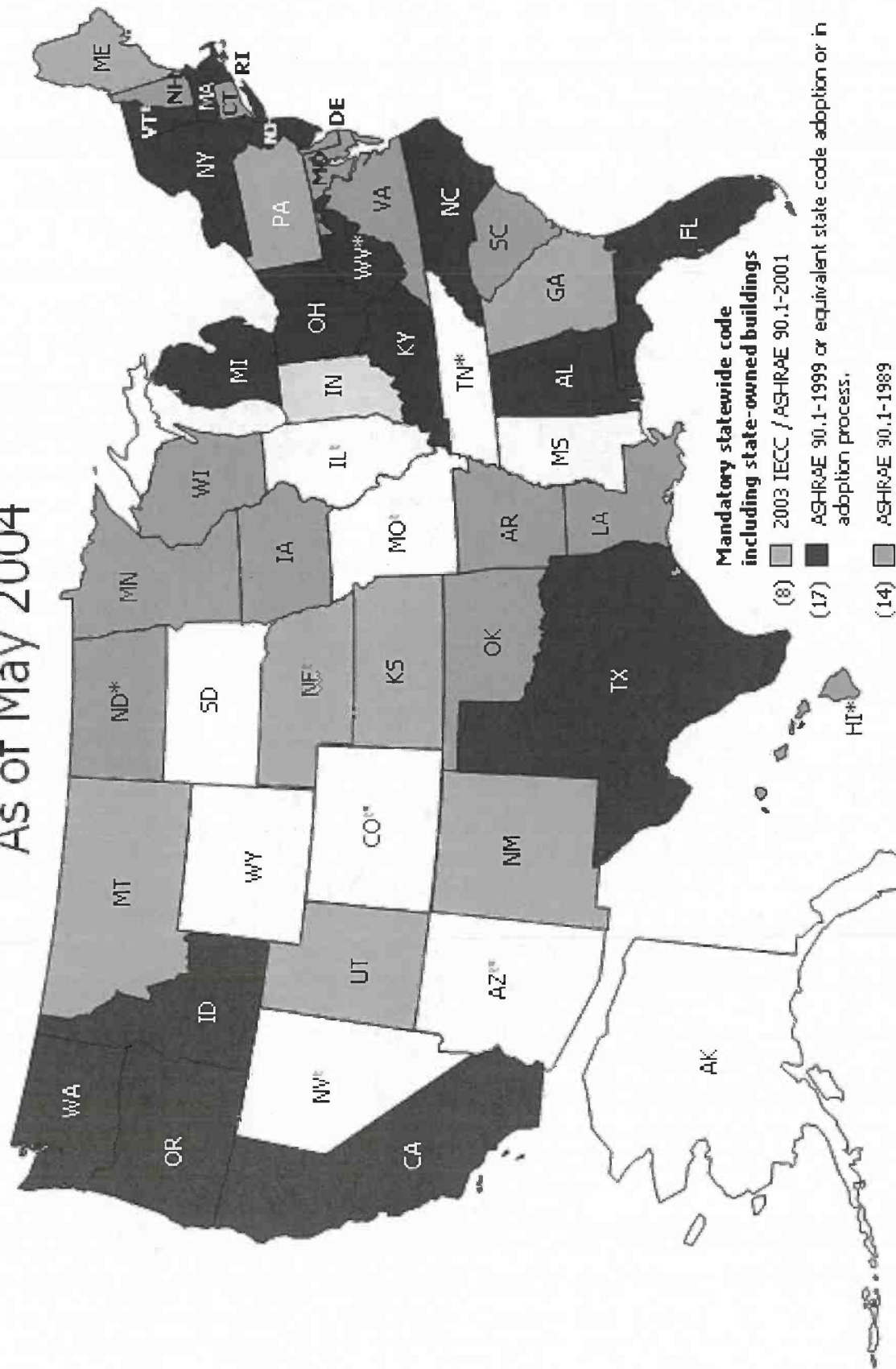
Good News? Bad News? Both?

- 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

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 EPA Act?
 - Penalties for non-compliance?
 - Teeth?

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?

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?

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 IECC..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 Web: 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

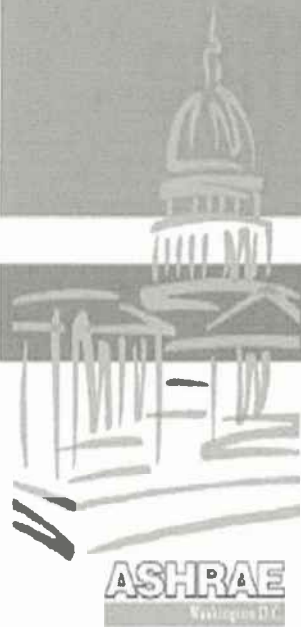
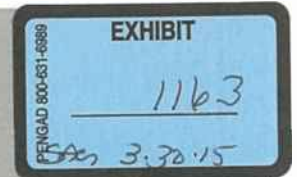
Upcoming ACTIONS:

- 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 Web: www.ASHRAE.org <<http://www.ashrae.org/>>

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



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



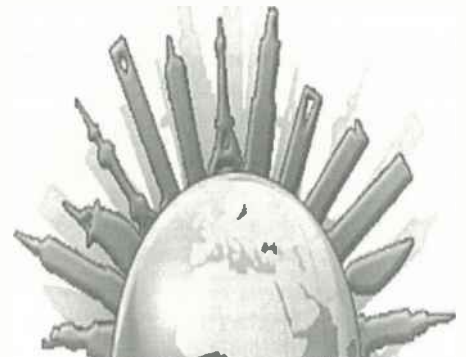
Patricia Ryan,
Assistant to the
Director, Washington
Office



ASHRAE DC Office

2010

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





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)

➤ 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 Hocs (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



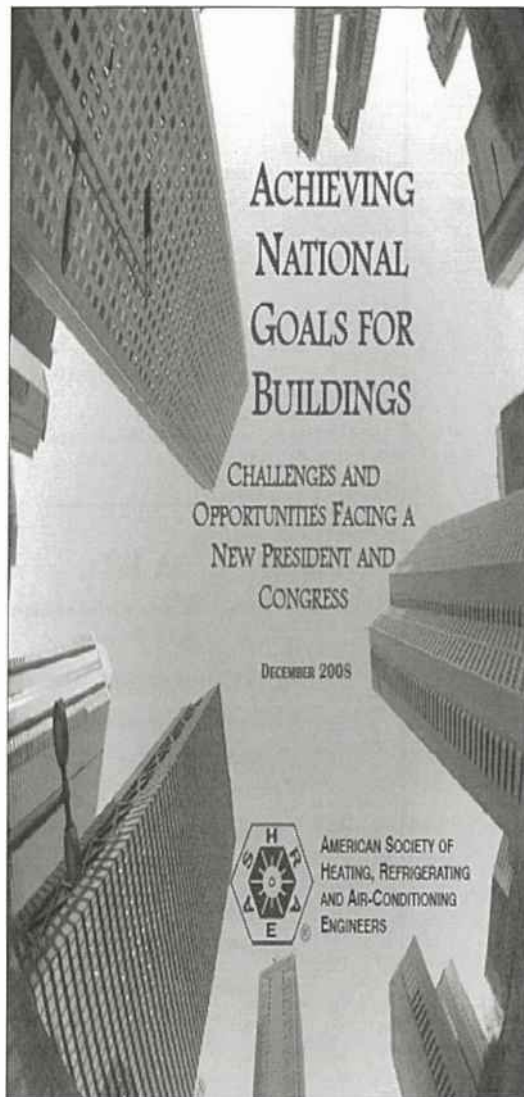


Workshops/Symposia/Meetings

- 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 (H.R.1) by National Building Community Stakeholders (November 18, 2008)

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 evaluates opportunities to impact the energy use of Federal buildings, the Executive Committee of the High-Performance Building Congressional Caucus Coalition (www.hpbccc.org) developed the following recommendations which, if implemented through upcoming 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 resiliency.

Efforts to enhance the energy and sustainability of Federal buildings must proceed within the context of traditional design requirements for safeguarding life, health, property, and public welfare. In order to avoid unintended consequences to building user's health and life-safety, energy efficient/sustainable design practices and standards implemented 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 Real 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 often assessment of a given solution, or choice among alternative solutions, on the basis of considering all 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 approved 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 (operations) 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.

Integrating 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 Total Building Commissioning for the Federal Building Stock.

All Federal buildings should be required to utilize total building commissioning, re-commissioning, retro-commissioning, 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 increases in quality control for "green" buildings, including the validation of design strategies and decisions 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:\M1FC\ASHRAE\CAUCUS\001.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. CARSON 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 Per-
5 sonnel Training Act of 2009".

6 SEC. 2. TRAINING OF FEDERAL BUILDING PERSONNEL.

7 (a) IDENTIFICATION OF CORE COMPETENCIES.—Not
8 later than one year after the date of enactment of this
9 Act and annually thereafter, the Administrator of General

➤ HPBCCC Report on Federal Building Opportunities

➤ Legislation to Implement Federal Building Recommendations



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

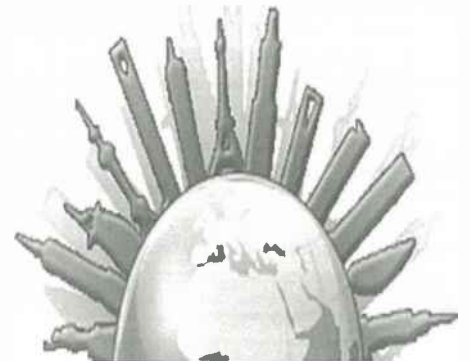
➤ Agencies

- 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**



Legislation



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



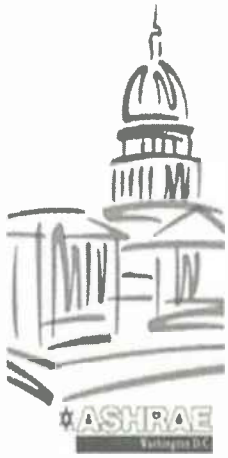
<http://www.hpbccc.org>



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)
 - 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





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
- 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

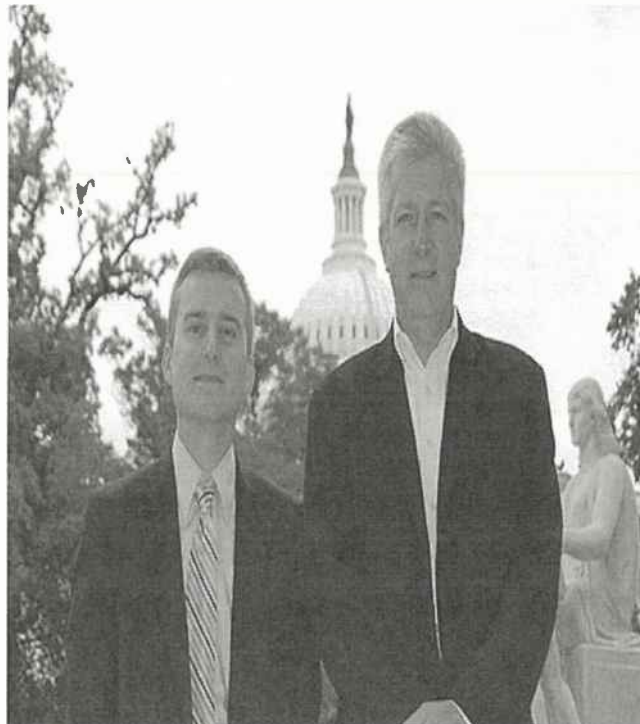


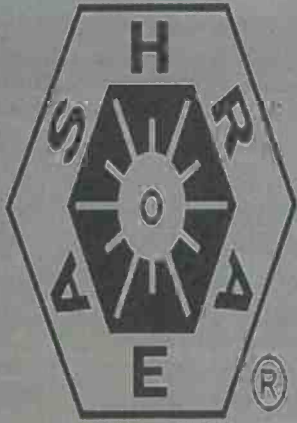
- **2008-2010 Fellow Mike Erbesfeld began in Sen. Dianne Feinstein's Office, moved to DOE in May 2009**
- **Currently seeking fellows for placement at DOE on codes issues**
- **Funding provided by DOE**



Internship

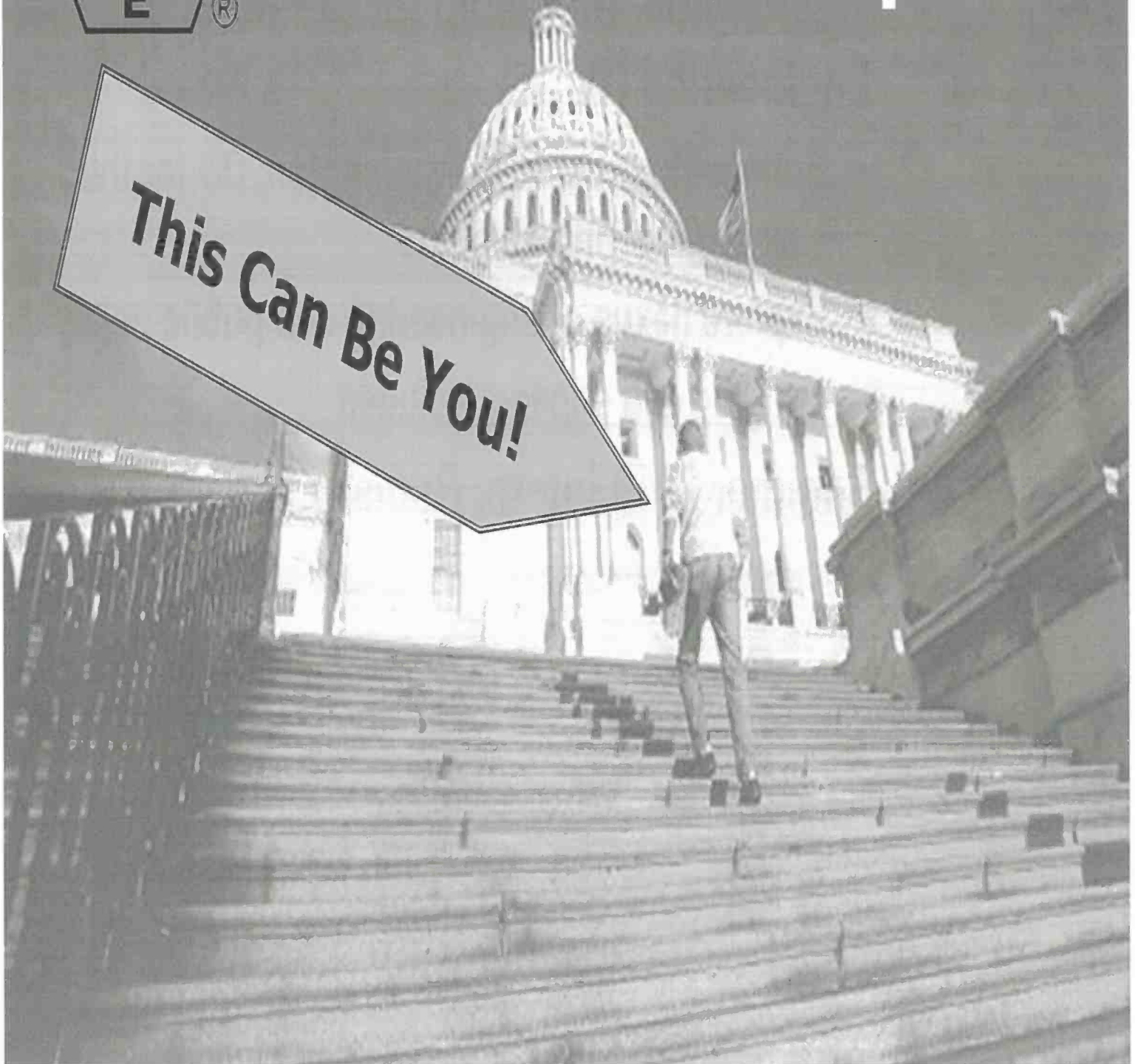
- **Washington Internship for Students of Engineering (WISE)**
 - Summer Internship in Washington, DC for third year engineering students
 - Explore nexus of engineering and public policy
 - Lodging and stipend included
- **Summer 2010 intern, Ramsey Brown, CMA**





Government Activities and ASHRAE Chapters

This Can Be You!





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)

EXHIBIT 54

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PENGAD 800-631-9888

EXHIBIT

1233

4-1-15

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 (☒) revised text () deleted text

3. Proposal:

Revise Section 760-7 to read as follows:

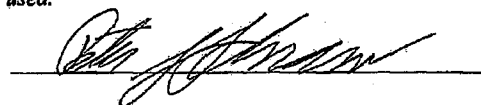
760-7. Fire Alarm Circuits Extending Beyond One Building. Power-limited fire alarm circuits that extend beyond one building and run outdoors shall either meet the requirements of Article 800 and be classified as communications circuits or shall meet the requirements of Article 225. Nonpower-limited fire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

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ADS011129

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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].

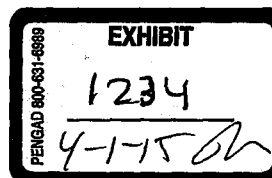
"Wiring circuits reserved solely for fire-protective signaling services and complying with the requirements of Article 800 for communication circuits are acceptable for outside wiring. Circuits shall be deemed to comply with Article 800, and Section 800-1 in particular, if they carry limited energy similar 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.

EXHIBIT 55

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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 Huntbridge 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:

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Roger L. Sandstedt

EXHIBIT 56

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PENGAD 800-831-8889

EXHIBIT

1235

4-1-15

Proposal for the 1999 National Electrical Code®

NOV 08 1996

Log # _____ Date Received _____ (Office Use Only)

3508

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

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Signature (Required)

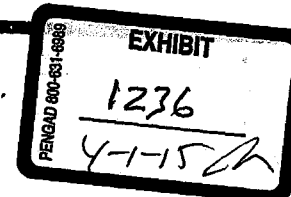
Joseph A. Tedesco

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

ADS001673

EXHIBIT 57

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METHOD OF SUBMITTING A PROPOSAL

70-1069

FORM FOR PROPOSALS FOR 1999 NATIONAL ELECTRICAL CODE®

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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: 11/17/95 Name: VICTOR V. TIMPANARO - PRESIDENT Tel. No. 908-360-1991

Company

Street Address: 1-78 Pinetree Blvd City: OLD BRIDGE State: N.J. Zip: 08857-2945

Please Indicate Organization Represented (if any): MUNICIPAL ELECTRICAL INSPECTORS ASSN 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 conductors 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 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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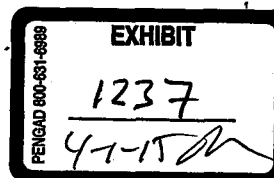
Signature (Required)

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

EXHIBIT 58

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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) ☒ 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 4.10-1. 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. ☒ 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:

NEC 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 copy-right, 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.

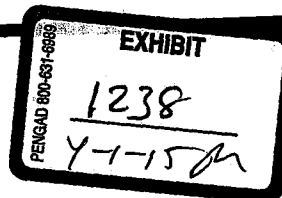
Joseph A. Tedesco
Signature (Required)

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL

ADS011147

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70-1069

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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:

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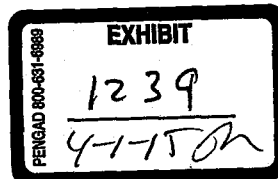
Signature (Required)

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

ADS011264

EXHIBIT 60

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FORM FOR PROPOSALS FOR 1999 NATIONAL ELECTRICAL

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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 G/ACTER 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 ☒ 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. ☒ 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