Public Comments Report

on the

Development of the

2012 Edition of the

ICC 700
National Green Building Standard™

(June 29, 2012)

FOREWORD

NOTICE

In accordance with the development procedures, Comment PC225 is being recorded as "Reject" as the ballot failed to achieve the required 2/3's affirmative vote to sustain the Committee Action of "Accept as Modified" taken at the February 2012 meeting. This is due to an identifiable part of Comment PC225 receiving negative public and ballot comments on the provision for allocating points for skylights and tubular daylighting devices (TDDs).

In an attempt to resolve these objections, a proposed revision is being issued for public comment and committee ballot. This revision, to the provision for allocating points for skylights and tubular daylighting devices (TDDs), was developed and approved by the Energy Efficiency Task Group (TG-5).

The text of the revision is available at www.nahbrc.com/NGBS. The scope of this public comment period is limited to the action to restore *Skylights & tubular daylighting devices (TDDs)* as a separate fenestration category for acquiring points within the Energy Efficiency Chapter. Only the revised language displayed in underline/strikethrough format is subject to public comment. All public comments are required to be submitted on a web-based form available at www.nahbrc.com/NGBS.

The deadline for submitting public comments is July 29, 2012.

The documentation shown in this Public Comments Report on the consideration and Committee Action on Comment PC225 will be updated after the required action on the proposed revision is finalized.

At that time a revised Public Comment Report will be issued.

After the consensus committee balloting on the revision noted in the notice above is finalized, this Public Comments Report (PCR) will be updated and released as the complete documentation on the Public Comments phase of development.

This is the Public Comments Report (PCR) on the development of the 2012 edition of ICC 700 - National Green Building Standard (NGBS). This report summarizes the steps of the Public Comments phase of development, the development of the Second Draft Standard for the purpose of receiving public comment on the changes made to the first Draft Standard, and the roster of the consensus committee at the time of acceptance of the public comments. This PCR is released as information to the Consensus Committee and public as to the Formal Action taken on the comments.

Prior to the Public Comments phase of development, the consensus committee took action on Proposed Changes submitted by the public and developed Committee Proposals. This work on the development of the 2012 edition of ICC 700 (NGBS) is reported in the Public Proposals Report (PPR) and the first Draft Standard that were released to the public on September 23, 2011. *(The PPR was editorially updated and re-released on October 8, 2011. The updated PPR shows a date of October 7, 2011)*

A formal "Call for Public Comment" on the first Draft Standard was released on September 23, 2011. The call was posted in the September 23, 2011 edition of the ANSI Standards Action, and in the September 19, 2011 edition of the Nation's Building News, and announced on the NAHB and NAHB Research Center's web sites.

The 45 day period for submitting Public Comments closed on November 7, 2011. It is noted that the NGBS is always open for comment, and Proposed Changes can be submitted at any time via web-based form posted at www.nahbrc.com/ngbs. Instructions for submitting Proposed Changes are provided with the form.

After the close of the "Call for Public Comment", the comments were grouped for review and recommendation by the seven task groups assembled to assist the Consensus Committee in taking Formal Action on all comments. The task groups met by conference call from early December 2011 through early February, 2012. In all, 229 public and task group developed comments were reviewed.

During the Public Comment phase of development, the NAHBRC Executive Standards Committee (ESC) made revisions to the Scope and Intent of the standard. In accordance with the procedures, the scope, intent and purpose of a standard are developed and approved by the ESC. The proposed revision was posted in the February 23, 2012 edition of the ANSI Standards Action, released on February 17, 2012 in the February 20, 2012 edition of the NAHB Monday Morning Briefing, and announced on the NAHB and NAHB Research Center's web sites. The 30 day public comment period ended on March 25, 2012. No public comments were received and the proposed change was considered approved. The text of this change is shown on the last pages of this Foreword.

On February 21-23, 2012 public hearings were held at the National Housing Center in Washington, DC. The full Consensus Committee heard public testimony, reviewed the task group recommendations, and took Formal Action on each Public Comment submitted by the public and the task groups. All substantive changes made to the first Draft Standard were published for Public Comment in the Second Draft Standard.

A formal "Call for Public Comment" on the Second Draft Standard was released on April 27, 2012. The call was posted in the April 27, 2012 edition of the ANSI Standards Action, the NAHB's April 30, 2012 Monday Morning Briefing, and announced on the NAHB and NAHB Research Center's web sites.

The 31 day Formal Ballot Period on the Formal Actions taken at the meeting started on April 27, 2012 and ended on May 27, 2012. Concurrent with the consensus committee ballot, the 45 day Public Comment period on the changes shown in the Second Draft Standard started on April 27, 2012 and ended in June 11, 2012. All ballot comments and public comments were circulated from June 15, 2012 through June 25, 2012 to afford the voting members of the consensus committee an opportunity to respond, reaffirm or change their vote. With the exception of Public Comment PC225, all Committee Actions taken at the February 2012 public hearings were upheld through the ballot. *(Please see the Notice at the beginning of this Foreword on information related to Public Comment PC225.)*

This PCR includes the following information on each comment considered by the Consensus Committee:

(1) The name of the submitter of the *comment*;
(2) The entity represented;
(3) The text of the c*omment*;
(4) The *Formal Action* taken by the *consensus committee*;
(5) Any *consensus committee* statement on the *Formal Action*;
(6) Number of *consensus committee* members eligible to vote;
(7) Number voting in the affirmative;
(8) Identification of negative voters and stated reasons for each negative vote;
(9) Identification of those who have abstained, and reasons for each abstention;
(10) Identification of those who have not returned ballots.

Held and Non-Responsive Comments. In accordance with the development procedures, seventeen Public Comments were received that have been classified as "Non-Responsive" or are "Held". Public Comments that do not apply to the standard, and those that are general in nature and do not propose any action that can be taken by a Consensus Committee are classified as Non-Responsive. Public Comments were only allowed on the changes shown in the first *Draft Standard* (changes shown in legislative text). Proposed changes to a section or part of a first *Draft Standard* that was not changed during the development of the Second *Draft Standard* shall be reported as Held. These seventeen comments are shown on the last 12 pages of this PRC, and are identified with a comment number prefix of "PCH". The release of this Public Comments Report (PCR) is considered notification to a submitter of a Held or Non-Responsive comment as to the determination by the *consensus committee*. At the discretion of the submitter, a Held *comment* can be retained and be processed as a *proposed change* during the next revision of the standard. The submitter must inform the NAHB Research Center Standards Coordinator of this request or the comment is considered discharged.

Notification of Committee Action. The release of this Public Comments Report (PCR) is considered notification to a submitter of a public comment or a ballot comment as to the committee action on the comment. The submitter of a public comment may inform the Standards Coordinator that they remain unresolved by the action of a consensus committee. For the submitter of a negative ballot comment, only those items on which the member indicates to the Standards Coordinator that his or her *objection* is *resolved* are classified as a *resolved objection*. *(Please see "Classification as an Unresolved Objection" below.)*

Objections. The consideration of public comments in accordance with Section 4.4.5.7 and Section 4.4.6.8, and related ballot comments in accordance with Section 4.4.5.10 of the development procedures is considered an effort and attempt to resolve all expressed objections. The committee action and statement (reason) supporting the Formal Action reported in this PCR is notification to the submitter of a comment as to the reason for acceptance or rejection of the comment. Those comments that are not supported by an affirmative action on the part of the consensus committee are considered non-persuasive.

Classification as an Unresolved Objection. Unresolved objections as classified as follows:

(a) **Public Comments:** For submitters of *public comments*, only an appeal filed on a specific *substantive change* or *committee action* is tentatively classified as an *unresolved objection*; or notification from the submitter of a *public comment* that they remain *unresolved* by the action of a *consensus committee* is classified as an *unresolved objection*.

(b) **Ballot Comments:** For negative ballots cast by a *consensus committee* member, only those items on which the member indicates to the Standards Coordinator that his or her *objection* is *resolved* are classified as a *resolved objection*.

Appeals. Persons who have directly and materially affected interests and who have been or will be adversely affected by any procedural action or inaction by the Secretariat with regard to the development of a proposed standard or the revision, reaffirmation or withdrawal of an existing standard, have the right to appeal. Appeals shall be based on compliance with or interpretation of the NAHB Research Center Procedures. An appeal shall be submitted by registered mail to the Standards Coordinator no later than **July 28, 2012**. The appeal shall identify and address the original source of the objection. The appeal shall specify the cause of the appeal, the applicable section(s) of the procedures related to the appeal, and a proposed corrective action. The appeal shall be accompanied by a filing fee of $500.00. This fee may be waived or reduced upon sufficient evidence of hardship. Appeals will be considered by the Appeals Panel at a hearing on the premises of the NAHB Research Center on August 8-10, 2012. Please see the NAHB Research Center's Procedures for further information.

NAHB Research Procedures. A copy of the NAHB Research Center "Procedures for Consensus Developed Standards", and all other information on the development of the 2012 ICC 700 - National Green Building Standards is available at www.nahbrc.com/ngbs.

The following were the members of the Consensus Committee on the National Green Building Standard at the time of voting on the Comments shown in this Public Comments Report.

Chair: Donald L. Pratt
Vice Chair: Ray Tonjes
Staff Liaison: Vladimir G. Kochkin

COMMITTEE MEMBER	REPRESENTATIVE
Air Barrier Association of America, Inc. (P)	Laverne Dalgleish
Air-Conditioning, Heating and Refrigeration Institute (P)	Frank A. Stanonik
American Gas Association (P)	Ted Arthur Williams
	Paul Cabot (Alternate)
American Institute of Architects (U)	David S. Collins, FAIA
American Wood Council (P)	Kenneth Bland
	Sam W. Francis (Alternate)
Association of Home Appliance Manufacturers (P)	Matthew Brian Williams
BME Associates (U)	Bruce G. Boncke
BOMA International (U)	Ron Burton
C. F. Evans & Company (U)	Patrick Westbury
	Joel Freeman (Alternate)
CECS of MI, LLC (U)	Donald L. Pratt
City of Denton, TX (G)	Kurt Spence Hansen
City of Keene, NH (G)	Medard Kopczynski
City of Longmont, CO (G)	Chris Allison
City of Scottsdale, AZ (G)	Anthony C. Floyd
ConSol (U)	Michael G. Hodgson
Edison Electric Institute (P)	Steven Rosenstock
Environmental Solutions Group (U)	Steven Armstrong
Forest City Land Group (U)	William Sanderson
GREENGUARD Environmental Institute (P)	Josh Jacobs
Habitat for Humanity International (U)	Matt Clark
	Mike Mongeon (Alternate)
Memphis Land Bank, Inc. (G)	Molly A. Beard
National Multi Housing Council (U)	Paula Cino
	Ron Nickson (Alternate)
North American Insulation Manufacturers Association (P)	Charles C. Cottrell
	Darrell K. Winters (Alternate)
NVR Inc. (U)	Christine A. Phillips
	Dan Simon (Alternate)
Plastic Pipe and Fittings Association (P)	Michael William Cudahy
Portland Cement Association (P)	Donn C. Thompson, AIA, CGP, LEED AP
	Stephen V. Skalko, P.E. (Alternate)
Ray Tonjes Builder, Inc. (U)	Ray Tonjes
State of California - Department of Housing and Community Development (G)	Doug Hensel
State of New Jersey - Division of Codes and Standards (G)	Darren Molnar-Port

COMMITTEE MEMBER	REPRESENTATIVE
Steel Framing Alliance (P)	Maribeth S. Rizzuto
	Mark Nowak (Alternate)
Steve Easley & Associates (U)	Steve Easley
The Sullivan Company, Inc. (U)	Paul L. Sullivan, CGR, CAPS
U.S. Army (G)	Deborah Reynolds
U.S. Department of Energy (G)	Jeremiah L. Williams
U.S. Department of Housing & Urban Development (G)	Dana Bres, P.E.
	Mike Blanford (Alternate)
U.S. Environmental Protection Agency (G)	Lee S. Sobel
U.S.D.A. Forest Service - Forest Products Laboratory (G)	Richard Bergman
	Michael A. Ritter (Alternate)
Verdatek Solutions LLC (U)	Matthew Belcher
Vinyl Siding Institute, Inc. (P)	Matthew Dobson
	Jery Y. Huntley (Alternate)
Winchester Homes, Inc. (U)	Randall K. Melvin
Window & Door Manufacturers Association (P)	Jeff Inks

Producer Interest (P): Individuals assigned to the Producer Interest Category are those who represent the interests of an entity, including an association of such entities, which produces, installs or maintains a product, assembly or system subject to the provisions within the scope of the *consensus committee*. These entities include Distributor, Labor, Manufacturer, Material Association, Standards Promulgator, Testing Laboratory, and Utility.

User Interest (U): Individuals assigned to the User Interest Category are those who represent the interests of an entity, including an association of such entities, which is subject to the provisions or voluntarily utilize the provisions within the scope of the *consensus committee*. These entities include Builder, Contractor, Consultant, Applied Research Laboratory, Building Owner, Design Professional, Insurance Company, Private Inspection Agency, and Product Certification/Evaluation Agency.

General Interest (G): Individuals assigned to the General Interest Category are those who represent the interests of an entity, including an association of such entities, representing the general public or entities which promulgate or enforce the provisions within the scope of the *consensus committee*. These entities include Academia, Consumers, and Government Agencies.

Revisions to the Scope and Intent of ICC 700

The following changes were approved by the Executive Standards Committee of the NAHB Research Center.

Editorial changes in Section 101 were made to the National Green Building Standard ICC700 2008 (NGBS) to align with the terms used in the NAHB Research Center's standards development procedures. The Applicability item in the NGBS is a term not defined in the procedures and it is deemed to be Scope, therefore the editorial change was to incorporate the Applicability section into the Scope and delete the title Applicability.

A substantive change was approved. The change was adding "Accessory Structures" to the Scope of the NGBS. The reason for adding "Accessory Structures" was to align the National Green Building Standard with the with referenced International Code Council's building codes and in response to the sponsoring organizations The National Association of Home Builders and the International Code Council.

All of the approved changes are noted in the Legislative Version below. A Non-Legislative Version is provided as it would appear in the next edition of the NGBS.

Legislative Version
This version shows the changes to the current text. Editorial changes were made to align the terms used the NAHBRC standards procedures. Applicability is deemed to be Scope, therefore it was incorporated into the Scope section and Applicability section was deleted. The only substantive change is adding "accessory structures" to the Scope. The reason for adding "accessory structures" is to align the NGBS with the referenced International Code Council's building codes.

101.1 Title. The title of this document is the *National Green Building Standard*TM, hereinafter referred to as "this Standard."

~~**101.2 Scope.** This Standard provides~~

101.2 Scope. The provisions of this Standard shall apply to design and construction of the residential portion(s) of any building, not classified as an institutional use, in all climate zones. This Standard shall also apply to subdivisions, building sites, building lots, accessory structures, and the residential portions of alterations, additions, renovations, mixed-use buildings, and historic buildings.

101.3 Intent. The purpose of this Standard is to establish criteria for rating the environmental impact of design and construction practices to achieve conformance with specified performance levels for green residential buildings~~.~~

~~**101.3 Intent.** This Standard shall establish practices for the design and construction of green residential buildings~~, renovation thereof, accessory structures, building sites, and subdivisions~~, and renovation thereof~~. This Standard is intended to provide flexibility to permit the use of innovative approaches and techniques. This Standard is not intended to abridge safety, health, or environmental requirements contained in other applicable laws, codes, or ordinances.

~~**SECTION 102 - APPLICABILITY**~~

~~**102.1 Applicability.** The provisions of this Standard shall apply to design and construction of the residential portion(s) of any building not classified as an institutional use in all climate zones within the United States. This Standard shall also be used for subdivisions, building sites, alterations, additions, renovations, mixed-use residential buildings, and historic buildings, where applicable.~~

Non-Legislative Version
This version shows the final text and the sustentative change as denoted by double underlined text.

101.1 Title. The title of this document is the *National Green Building Standard™*, hereinafter referred to as "this Standard."

101.2 Scope. The provisions of this Standard shall apply to design and construction of the residential portion(s) of any building, not classified as an institutional use, in all climate zones. This Standard shall also apply to subdivisions, building sites, building lots, accessory structures, and the residential portions of alterations, additions, renovations, mixed-use buildings, and historic buildings.

101.3 Intent. The purpose of this Standard is to establish criteria for rating the environmental impact of design and construction practices to achieve conformance with specified performance levels for green residential buildings, renovation thereof, accessory structures, building sites, and subdivisions. This Standard is intended to provide flexibility to permit the use of innovative approaches and techniques. This Standard is not intended to abridge safety, health, or environmental requirements contained in other applicable laws, codes, or ordinances.

PC001 LogID 732 202 Definitions *Final Formal Action:* Accept

Submitter:	**Howard Fortunato, LandmarkJCM**
Public Comment:	**CONSTRUCTED WETLAND.** An artificial wetland system~~,~~ (such as a marsh~~,~~ or swamp) created as ~~a~~ new and/or restored habitat for native wetland plant and~~migratory~~ wildlife communities, as well as to provide and/or restore wetland functions to the area. Constructed wetlands are often created as compensatory mitigation for ecological disturbances that result in a loss of natural wetlands such as ~~for~~ anthropogenic discharge ~~such as~~ for wastewater, stormwater runoff, or sewage treatment~~;,~~ for land reclamation after mining~~;,~~ refineries~~;,~~ or ~~otherecological disturbances such as required mitigation~~ for ~~natural~~ wetland~~slost~~ losses associated with ~~to a~~ development.
Reason:	Our staff Wetlands Scientist reviewed the definition and had these suggestions. She has re-written the definition based on the following comments: 1) Marshes and swamps are a type of wetland so I would not say “wetlands, marsh, or swamp. 2) In general, “constructed wetlands” and “restored wetlands” mean 2 different things, but since there is not a separate definition for “restored wetland” in the document, it is probably fine if they are lumped together in this definition. 3) I revised the wording for the last sentence for it to flow better.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Added language to highlight use as compensatory mitigation for ecological disturbances.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC002 LogID 731 202 Definitions *Final Formal Action:* Reject

Submitter:	**Howard Fortunato, LandmarkJCM**
Public Comment:	**ICF(INSULATING CONCRETE FORMS).** ~~A concrete forming system using stay-in-placeforms of rigid foam plastic insulation, a hybrid of cement and foam insulation,a hybrid of cement and wood chips, or other insulating material forconstructing cast-in-place concrete walls.~~ ICF: would define ICF as, “Insulating Concrete Form (ICF) is a system of formwork for concrete that stays in place as permanent building insulation for energy-efficient, cast-in-place, reinforced concrete walls, floors, and roofs. The forms are interlocking modular units that are dry-stacked (without mortar) and filled with concrete. The forms lock together somewhat like Lego bricks and serve to create a form for the structural walls or floors of a building. Concrete is pumped into the cavity to form the structural element of the walls. Usually reinforcing steel (rebar) is added before concrete placement to give the concrete flexural strength, similar to bridges and high-rise buildings made of concrete (see Reinforced concrete). After the concrete has cured, the forms are left in place permanently, for the following reasons: (1) Thermal and acoustic insulation ; (2) Space to run electrical conduit and plumbing. The form material on either side of the walls can easily accommodate electrical and plumbing installations.

	(3) Backing for gypsum boards on the interior and stucco, brick, or other siding on the exterior."
Reason:	a homebuilder client (that builds with ICF's) drew exception to the proposed definition with regard to the wood chips and has proposed this definition, below all of which is intended to replace the existing definition.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The level of detail in the proposed definition is more appropriate for commentary. The current definition is adequate.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC003 LogID 759 202 Definitions *Final Formal Action:* Accept

Submitter:	**Paul Sullivan (on behalf of Task Group 7), The Sullivan Company, Inc.**
Public Comment:	~~**MAJOR REMODEL.** A renovation and/or addition project with a scope that is broader than a single room or area of the building.~~ ~~**MINOR REMODEL.** A limited renovation or addition involving only a kitchen renovation, a bathroom renovation, a basement renovation, a one-room addition, or a one-room addition plus one bathroom or kitchen.~~
Reason:	It was determined that two of the definitions would become obsolete as a result of PC016, PC193, and PC216.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC004 LogID 644 202 Definitions *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**ARCHITECTURAL COATINGS.** A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, primers, paints, varnishes, sealers, and stains. An architectural coating is a material applied to stationary structures or their appurtenances at the site of installation. Coatings applied in shop applications, sealants and adhesives are not considered architectural coatings.
Reason:	Primers should be explicitly included since VOC guidelines for primers are provided in Chapter 9.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Primers as well as paints are included in the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC005 LogID 645 202 Definitions *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**EXISTING SUBDIVISION.** An area of land defined as “Site” in this Chapter, that has received all development approvals and has been platted and all infrastructure (roads, sewer, and utilities) is completed between <<date>> and <<date>> ~~at time of application to the NGBS~~.
Reason:	Infrastructure needs to be defined. It is not clear what “application to the NGBS” means and why it is appropriate. It was discussed the “existing” developments be retained because there were some developments that were halted midway thru the process due to the economic downturn. The original wording of the definition would allow new developments not to begin the verification process until the infrastructure was completed. This would make verification of new developments more difficult for both the developer and the verifier. The dates can be chosen by the committee or task group such that it would encompass those developments that have been halted mid way.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The suggested dates are arbitrary and should not be used as part of the definition for Existing Subdivision. The current language is adequate.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0**

	Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC006 LogID 604 202 Definitions *Final Formal Action:* Reject

Submitter:	**Chris Allison, City of Longmont**
Public Comment:	Replace the definition for High Efficiency Lighting with the definition of High Efficacy Lamps from the IECC or define both terms.
Reason:	The definition from the IECC is for High Efficacy Lamps and P020 should be changed to reflect this definition or the term High Efficiency Lighting should be a new definition in the NGBS.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Definition and terminology from 2009 IECC is already included in the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC007 LogID 646 202 Definitions *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**INFILL.** A location including vacant or underutilized land that may apply to either a Site or a lot and is located in an area served by existing infrastructure (such as centralized water and sewer connections, roads, drainage, etc.), with the capacity to serve the development and the site boundaries are adjacent to existing development on at least one side. Lots within an infill site are considered infill lots.
Reason:	If additional infrastructure capacity is required it defeats the benefits of using an infill site. The standard should make it explicit that lots within an infill site qualify as infill lots even if additional roads, sewer, etc are needed to get to the lot.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The proposed language is redundant. The existing language already states this adequately.

Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC008 LogID 647 202 Definitions *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**MINOR COMPONENT.** ~~Building materials or systems that are not considered major.~~ Building materials or systems that are typically applied as a part of at least 3% of the surface area of the foundation, wall, floor, ceiling, or roof assemblies.
Reason:	Some minimum amount of material needs to be specified or else some builder will claim credit for using miniscule amounts of material. The 3% number seems appropriate as it would typically allow trim to be considered a minor material.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The introduction of the 3% in the definition will contradict the limits set in the body of the Standard such as Section 606.2(1) that requires “all trim”.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC009 LogID TG3-3 202 Definitions *Final Formal Action:* Accept

Submitter:	**Maribeth Rizzuto, Steel Framing Alliance**
Public Comment:	*Add new as follows:* **Recycle.** To recover and reprocess manufactured goods into new products. **Reuse.** To recover a material or product for use again without reprocessing.

Reason:	To clarify allocation of points under Sections 603, 604,and 605, Task Group 3 proposed two new definitions.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Appropriate to clarify.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC010 LogID 648 202 Definitions *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**REGIONAL MATERIAL**. Material that is originated, produced, grows naturally, or occurs naturally within 500 miles (804.7 km) of the construction site if transported by truck or 1500 miles (2414 km) of the construction site if transported for not less than 80% of the total transport distance by rail or water. Products that are assembled or produced from multiple raw materials are considered regional materials if the weighted average of the raw materials and distance transported in the product meet the criteria.
Reason:	There is some confusion about how to deal with manufactured products produced from raw materials that are not necessarily local. If the practice is intended to only apply to materials (e.g. lumber, stone, etc) then this definition should be explicit. If the practice can apply to manufactured products (e.g. windows, carpet, tile, etc) then the definition needs to define how to account for the source of raw materials.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **REGIONAL MATERIAL**. Material that is originated, produced, grows naturally, or occurs naturally within 500 miles (804.7 km) of the construction site if transported by truck or 1500 miles (2414 km) of the construction site if transported for not less than 80% of the total transport distance by rail or water. Products that are assembled or produced from multiple raw materials are considered regional materials if the weighted average (by weight or volume) of the distance the raw materials have been ~~and distance~~ transported ~~in the product~~ meet the criteria for the product.
Committee Reason:	Certain products are made up of multiple components and the Standard did not specify how to deal with these materials. The proposed language with clarifying revisions addresses this gap.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	**Section Number:** 202 Definitions **Full Name:** Dan Marvin, Florida Tile, Inc. **Requested Action:** Delete without substitution **Suggested Changes:** ~~Products that are assembled or produced from multiple raw materials are considered regional materials if they weighted average (by weight or volume) of the distance the raw materials have been transported meet the criteria for the product.~~ **Reason:** The addition to the "Regional Materials" definition is confusing. Furthermore, it requires that certifiers not only know where every item is manufactured, but where 100% of the raw materials that go into that item are sourced as well as the percentages of each in the product and to come up with a 'weighted average' that meets the 500 or 1500 mile thresholds. This one additional sentence is going to make regional materials an incredibly complicated set of points to obtain.

PC011 LogID 649 304.1 Multi-unit buildings *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**304.1 Multi-unit buildings.** All residential portions of a building shall meet the requirements of this Standard and partial compliance shall not be allowed. ~~Unless otherwise noted, a~~ All units ~~and residential common areas~~ within a multi-unit building shall: 1) meet all mandatory requirements; and 2) achieve the threshold number of points required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level. Mandatory practices and practices for which points are awarded for the dwelling units must also be implemented for common residential areas when applicable. For multi-unit buildings, points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, practices shall be implemented in all units, as applicable. Unless noted that a weighted average is used, where application of a prescribed practice allows for a different number of points for different units in a multi-unit building, the fewer number of points shall be awarded.
Reason:	It is not practical for the common areas of the building to be required to meet all the same thresholds for each chapter. For example, how does a garden apartment building with only common hallways meet the chapter 8 thresholds? Section 601.1 allows the use of a weighted average to determine the conditioned square footage to be applied to the practice. A similar approach should be allowed for practices such as 801.4, .5, and .6 where points available depend on the number of bathrooms. It does not seem logical that the entire building be penalized when there is a one bathroom unit in a building full of 3 bedroom units? Chapter 8 has been the chapter that the thresholds are typically toughest to meet. Allowing a weighted average for the plumbing fixtures will help in this area. Other practices should be examined to determine when a weighted average note is appropriate.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **304.1 Multi-unit buildings.** All residential portions of a building shall meet the requirements of this Standard and partial compliance shall not be allowed. Unless otherwise noted, all units and residential common areas within a multi-unit building shall: 1) meet all mandatory requirements; and 2) achieve the threshold number of points required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level. For multi-unit buildings, points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, including where a weighted average is used, practices shall be implemented in all units, as applicable. Where application of a prescribed practice allows for a

	different number of points for different units in a multi-unit building, the fewer number of points shall be awarded, unless noted that a weighted average is used.
Committee Reason:	The existing Standard language should be maintained, as it clarifies the compliance requirements for multi-unit buildings, and explains that dwelling units and common areas must meet the same environmental performance requirements. This aligns the Standard with other well-established green building programs and standards (such as LEED, Green Communities and ASHRAE 189.1), which do not provide for separate treatment of residential common spaces. The limited cases where different compliance methods are necessary for common space and dwellings are best dealt with through notation in individual provisions. TG 6 agrees with commenter that several provisions would benefit from the use of a weighted average to accommodate differences in the size and configuration of units in a multifamily building.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC012 LogID 664 304.1 Multi-unit buildings *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	**304.1 Multi-unit buildings.** All residential ~~portions~~ units of a building shall meet the requirements of this Standard and partial compliance shall not be allowed. Unless otherwise noted, all units ~~and residential common areas~~ within a multi-unit building shall: 1) meet all mandatory requirements; and 2) achieve the threshold number of points required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level. For multi-unit buildings, points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, practices shall be implemented in all units, as applicable. Where application of a prescribed practice allows for a different number of points for different units in a multi-unit building, the fewer number of points shall be awarded.
Reason:	Many points in Chapter 7 such as building envelope testing, duct system design and testing, and even performance path compliance are calculated differently in common areas of a multi-unit building (such as hallways or corridors or lounge or laundry or gym areas, etc). While whole buildings can be evaluated to include common areas in the test results, it is more complicated and difficult and time consuming (ie costly) and worthy of points but could be a barrier to participation if made to be a mandatory item for multi-unit projects. Recommend striking it as a mandatory item to keep things simple, or at least excluding Chapter 7 compliance as mandatory for the common areas.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The existing Standard language should be maintained, as it clarifies the compliance requirements for multi-unit buildings, and explains that dwelling units and common areas must meet the same environmental performance requirements. This aligns the Standard with other well-established green building programs and standards (such as LEED, Green Communities and ASHRAE 189.1), which do not provide for separate treatment of residential common spaces. The limited cases where different compliance methods are necessary for common space and dwellings are best dealt with through

	notation in individual provisions.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC013 LogID 692 305 Green Remodeling *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	Task Group 7 is working on a revised version that I believe will address my concerns. That version should be subsititued for the current section 305.
Reason:	The requirement that each remodeling project receive a certain percentage of points from "applicable" practices will result in the need for much project specific interpretations by the adopting entity making the approach unworkable. There are too many qualifiers needed to clearly indicate if a particular practice is applicable to a particular project.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Addressed through Items PC016 and PC193.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC014 LogID 687 305 Green Remodeling *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	Change Table 305.2.3 performance levels from Bronze, Silver, Gold and Emerald to One Star, Two Star, Three Star, and Four Star.
Reason:	305.2.3 performance levels should not be the same as new construction and instead could use the star system like the Green Subdivision Category. Having verified remodeling projects to the current NGBS, we have had projects achieve Emerald ratings by installing code compliant measures simply because the original structure performed so poorly. The % improvement in performance was high, but

	compared to a new construction home it was not even to the current building code (it was a historic remodel that could not replace windows). From a consumer perspective, one home (new construction) is Bronze and the other (remodel) is Emerald even though the actual "green-ness" of the homes are not apples to apples. I believe this creates confusion in the market and does not send a clear message to the consumer, realtor or appraisal community as to the value of "Bronze", "Silver", "Gold" or "Emerald".
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The rating levels should match those of the new construction portion of the NGBS in nomenclature.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC015 LogID 693 305 Green Remodeling *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	Delete all of Section 305.2.4 as it stands right now and replace with the following: 305.2.4 Additional Green Practices Additional green practices shall be selected from sections 11.5, 11.6 and 11.9 to achieve the point threshold levels listed in table 305.2.4. Projects can achieve One Star certification without additional points in these sections to allow for variability in scopes of work among remodel projects.

Table 305.2.4

Threshold Ratings for Green Remodels

Green Remodel Practice from Section 11	Minimum Points Needed			
	One Star	Two Star	Three Star	Four Star
Site Work (11.5)	0	TBD	TBD	TBD
Materials (11.6)	0	TBD	TBD	TBD
Indoor Air Quality (11.9)	0	TBD	TBD	TBD

Reason:	Section 305.2.4, although understandably an attempt to be fair in evaluating a remodel, adds and extra layer of complication by requiring projects to do a calculation to determine their point thresholds. It is not an easy calculation to grasp first time reading it and seems fairly subjective, which translates to lots of room for human error as well as a quagmire for Verification as Verifiers and the Administrating Certification Body will have to provide a lot of guidance and review just to be sure projects have followed the process correctly, adding time and cost to a process without direct value to the project. Most Builders and remodelers will not read through directions three times just to see if they can even play, they mostly want to know what it is they have to do. From a first impression standpoint, Section 305.2.4 will turn away many potential participants as they weigh the value of the certification vs just the time to figure it out how to participate. Table 305.2.4 could easily be redone with point minimums for each rating level and avoid the process of creating a % improvement

	threshold in terms of Site Work (11.5), Materials (11.6) and Indoor Air Quality measures (11.9). This would be much simpler to understand and eliminate the extra step of a point percentage calculation for these sections. By keeping the One Star level at zero additional green practice points, base level certification can be achieved for projects with limited scopes of work.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Consistent with response to PC014, the rating levels should match those for new construction in nomenclature. Also, rejected in favor of PC016 and PC193.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC016 LogID 760 305 Green Remodeling *Final Formal Action:* Accept as Modified

Submitter:	**Paul Sullivan (on behalf of Task Group 7), The Sullivan Company, Inc.**
Public Comment:	*Delete Section 305 - Green Remodeling in its entirety and replace with the following:* **305 Remodeling of existing buildings** **305.1 Compliance options.** The existing building criteria shall be in accordance with Section 305.2 for whole-building ratings or Section 305.3 for compliance designations of building functional areas. **305.2 Whole-building rating criteria** **305.2.1Applicability.**The provisions of Section 305.2 shall apply to remodeling of existingbuildings. In addition to the foundation, at least one major structural system(such as walls) of the existing building shall remain in place after theremodel for the building to be eligible for compliance under Section 305.2. **305.2.1.1 Additions.** For a remodeledbuilding that includes an addition, the entire building including the additionshall comply with the criteria of Section 305.2. The total above-gradeconditioned area added during a remodel shall not exceed 75% of the existingbuilding's above-grade conditioned area. For multi-unit buildings, theabove-grade conditioned area shall be based on the entire building includingall dwelling units and common areas. **305.2.2 Rating scope.** Thebuilding rating achieved under Section 305.2 and the associated compliancecriteria apply to the entire building afterthe remodel including any additions. **305.2.3 Mandatory practices.** Thebuilding, including any additions and common areas, shall satisfy all practicesdesignated as mandatory in Chapter 11. **305.2.4 Rating level.**A minimum rating level of Bronze shall be achieved in each of the followingcategories: Energy efficiency (Sections 305.2.5), Water efficiency (Section305.2.6), and

Prescriptive practices (Section 305.2.7). The building ratinglevel shall be the lowest rating level achieved in Sections 305.2.5, 305.2.6,and 305.2.7.

305.2.5 Energy efficiency. The energy efficiency rating level shall be based on the reduction in energyconsumption resulting from the remodel in accordance with Table 305.2.3.

Table 305.2.3 Energy Rating Level Thresholds

-	Rating Level			
	Bronze	Silver	Gold	Emerald
Reduction in energy consumption	20%	34%	43%	50%

305.2.5.1 Energyconsumption reduction. The reduction in energy consumption resulting from theremodel shall be based on the estimated annual energy cost savings due toheating, cooling, and water heating as determined by a third-party energy auditand analysis. The reduction shall bethe percentage difference between the consumption before and after the remodelcalculated as follows:

[(consumption beforeremodel - consumption after remodel)/consumption before remodel]*100%

Theoccupancy and life style assumed and the method of making the energyconsumption estimates shall be the same for estimates before and after theremodel. The building configuration for the after-remodel estimate shallinclude any additions to the building or other changes to the configuration ofthe conditioned space. For multi-unit buildings, the energy consumption shallbe based on the entire building including all dwelling units and common areas.

305.2.6 Water efficiency. The water efficiency rating level shall be based on the reduction in waterconsumption resulting from the remodel in accordance with Table 305.2.4.

Table 305.2.4 EnergyRating Level Thresholds

-	Rating Level			
	Bronze	Silver	Gold	Emerald
Reduction in water consumption	20%	34%	43%	50%

305.2.6.1 Waterconsumption reduction. Water consumption shall be based on the estimated annualuse as determined by audit or analysis. The reduction shall be the percentagedifference between the consumption before and after the remodel calculated asfollows:

[(consumption before remodel - consumption afterremodel)/consumption before remodel]*100%

Theoccupancy and life style assumed and the method of making the water consumptionestimates shall be the same for estimates before and after the remodel. Thebuilding configuration for the after-remodel estimate shall include any changesto the configuration of the building such as additions or new points of wateruse. For multi-unit buildings, the water consumption shall be based on theentire building including all dwelling units and common areas.

305.2.7 Prescriptive practices. The point thresholds for the environmental ratinglevels based on compliance with the Chapter 11 prescriptive practices shall bein accordance with Table 305.2.5. Any practice listed in Chapter 11 shall beeligible for contributing points to the prescriptive threshold ratings. The attributes of the existing building that werein compliance with the prescriptive practices of Chapter 11 prior to theremodel and remain in compliance after the remodel shall be eligible

	forcontributing points to the prescriptive threshold ratings. **Table305.2.5 Prescriptive Threshold Point Ratings** | | Bronze | Silver | Gold | Emerald | | Chapter 11 prescriptive practices | TBD | TBD | TBD | TBD | **305.3 Criteria for remodeled functional areas ofbuildings** **305.3.1 Applicability.** The provisions of Section 305.3 shallapply to remodeling of one or more of the following functional areas of theexisting building as follows: 1. Addition, kitchen, bathroom, or basementin buildings other than multi-unit buildings. 2.Kitchen or bathroom of an individual dwelling unit in a multi-unitbuilding. **305.3.1.1 Additions.** The totalabove-grade conditioned area added during a remodel shall not exceed 400 squarefeet. **305.3.2 Compliant**. Small projects that meet all applicable requirements ofChapter 12 for that functional area shall be designated as *compliant*. **305.3.3 Designation.** Thedesignation achieved under Section 305.3 applies only to the specificfunctional area of the existing building. The existing building may have morethan one *compliant* functional area. **305.3.4 Additions**. A bathroom(s), kitchen, or finished basement included in an addition shallcomply with all criteria specifically applicable to those functional areas inaccordance with the provisions of Chapter 12. **305.3.5 Mandatory.** Smallprojects shall satisfy all applicable practices designated as mandatory inChapter 12. **305.3.6 Existing attributes**.The attributes of the existing building that were in compliance with theapplicable provisions of Chapter 12 prior to the remodel and remain incompliance after the remodel shall be eligible for contributing todemonstration compliance under Section 305.3.
Reason:	Based on review of Draft Standard, Task Group 7 completely revised the Remodeling provisions.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **305 Remodeling of existing buildings** **305.0 Compliance.** Compliance with Section 305 shall be voluntary unless specifically adopted as mandatory by the Adopting Entity. **305.1 Compliance options.** The existing building criteria shall be in accordance with Section 305.2 for whole-building ratings or Section 305.3 for compliance designations of building functional areas. **305.2 Whole-building rating criteria** **305.2.1 Applicability.** The provisions of Section 305.2 shall apply to remodeling of existing buildings. In addition to the foundation, at least one major structural system (such as walls) of the existing

building shall remain in place after the remodel for the building to be eligible for compliance under Section 305.2.

305.2.1.1 Additions. For a remodeled building that includes an addition, the entire building including the addition shall comply with the criteria of Section 305.2. The total above-grade conditioned area added during a remodel shall not exceed 75% of the existing building's above-grade conditioned area. For multi-unit buildings, the above-grade conditioned area shall be based on the entire building including all dwelling units and common areas.

305.2.2 Rating scope. The building rating achieved under Section 305.2 and the associated compliance criteria apply to the entire building after the remodel including any additions.

305.2.3 Mandatory practices. The building, including any additions and common areas, shall satisfy all practices designated as mandatory in Chapter 11.

305.2.4 Rating level. A minimum rating level of Bronze shall be achieved in each of the following categories: Energy efficiency (Sections 305.2.5), Water efficiency (Section 305.2.6), and Prescriptive practices (Section 305.2.7). The building rating level shall be the lowest rating level achieved in Sections 305.2.5, 305.2.6, and 305.2.7.

305.2.5 Energy efficiency. The energy efficiency rating level shall be based on the reduction in energy consumption resulting from the remodel in accordance with Table 305.2.3.

Table 305.2.3 Energy Rating Level Thresholds

-	Rating Level			
	Bronze	Silver	Gold	Emerald
Reduction in energy consumption	~~20~~15%	~~34~~25%	~~43~~35%	~~50~~45%

305.2.5.1 Energy consumption reduction. The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings ~~due to heating, cooling, and water~~ ~~heating~~ as determined by a third-party energy audit and analysis or utility consumption data. The reduction shall be the percentage difference between the consumption per square foot before and after the remodel calculated as follows:

[(consumption per square foot before remodel - consumption per square foot after remodel)/consumption per square foot before remodel]*100%

The occupancy and life style assumed and the method of making the energy consumption estimates shall be the same for estimates before and after the remodel. The building configuration for the after-remodel estimate shall include any additions to the building or other changes to the configuration of the conditioned space. For multi-unit buildings, the energy consumption shall be based on the entire building including all dwelling units and common areas.

305.2.6 Water efficiency. The water efficiency rating level shall be based on the reduction in water consumption resulting from the remodel in accordance with Table 305.2.4.

Table 305.2.4 ~~Energy~~Water Rating Level Thresholds

-	Rating Level			
	Bronze	Silver	Gold	Emerald
Reduction in water consumption	20%	~~34~~30%	~~43~~40%	50%

305.2.6.1 Water consumption reduction. Water consumption shall be based on the estimated annual use as determined by audit ~~or~~and analysis or use of utility consumption data. The reduction shall be the percentage difference between the consumption before and after the remodel calculated as follows:

[(consumption before remodel - consumption after remodel)/consumption before remodel]*100%

The occupancy and life style assumed and the method of making the water consumption estimates shall be the same for estimates before and after the remodel. The building configuration for the after-remodel estimate shall include any changes to the configuration of the building such as additions or new points of water use. For multi-unit buildings, the water consumption shall be based on the entire building including all dwelling units and common areas.

305.2.7 Prescriptive practices. The point thresholds for the environmental rating levels based on compliance with the Chapter 11 prescriptive practices shall be in accordance with Table 305.2.5. Any practice listed in Chapter 11 shall be eligible for contributing points to the prescriptive threshold ratings. The attributes of the existing building that were in compliance with the prescriptive practices of Chapter 11 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing points to the prescriptive threshold ratings.

Table 305.2.5 Prescriptive Threshold Point Ratings

	Bronze	Silver	Gold	Emerald
Chapter 11 prescriptive practices	~~TBD~~88	~~TBD~~125	~~TBD~~181	~~TBD~~225

305.3 Criteria for remodeled functional areas of buildings

305.3.1 Applicability. The provisions of Section 305.3 shall apply to remodeling of one or more of the following functional areas of the existing building as follows:

1. Addition, kitchen, bathroom, or basement in buildings other than multi-unit buildings.

2. Kitchen or bathroom of an individual dwelling unit in a multi-unit building.

305.3.1.1 Additions. The total above-grade conditioned area added during a remodel shall not exceed 400 square feet.

305.3.2 Compliant. ~~Small p~~Projects that meet all applicable requirements of Chapter 12 for that functional area shall be designated as *compliant*.

305.3.3 Designation. The designation achieved under Section 305.3 applies only to the specific functional area of the existing building. The existing building may have more than one *compliant* functional area.

305.3.4 Additions. A bathroom(s), kitchen, or finished basement included in an addition shall comply with all criteria specifically applicable to those functional areas in accordance with the provisions of Chapter 12.

305.3.5 Mandatory. ~~Small p~~Projects shall satisfy all applicable practices designated as mandatory in Chapter 12.

305.3.6 Existing attributes. The attributes of the existing building that were in compliance with the

	applicable provisions of Chapter 12 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing to demonstration compliance under Section 305.3.
Committee Reason:	Section 305.0 is included to clarify that adoption of the Standard does not intend mandatory compliance with the remodeling provisions for the jurisdiction unless specifically adopted as such. The energy efficiency threshold levels are revised because the calculation is changed to a whole-house basis as consistent with the provisions for new construction. The use of utility consumption data is included as an added option. The calculation is normalized to a 'per square foot' basis to improve parity for remodeling projects with additions. Water thresholds are rounded down to provide equal increments between the levels. Prescriptive threshold point ratings are included.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	**Section Number:** 305.3 Whole-building rating criteria **Full Name:** Susan Gitlin, US Environmental Protection Agency **Requested Action:** Revise as follows **Suggested Changes:** Provide a definition that includes the list of all the structural systems that meet the applicability criteria. **Reason:** Section 305.3.1 Applicability A definition of a "major" structural system is not included. Considering that there are various structural systems, the extent of what needs to be preserved for section 305.3 to apply, could vary. For example, structural systems might be roof trusses or shear structures limited to cores of multilevel buildings, and neither of those would be that extensive. On the other hand, other structural systems, such as complete structural floors would constitute far greater portions of buildings. Thus, the extents of preserved portions could vary.
	Section Number: 305.3 Whole-building rating criteria **Full Name:** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions **Requested Action:** Revise as follows **Suggested Changes:** 1) **305.3.1 Applicability.** The provisions of Section 305.3 shall apply to remodeling of existing buildings. In addition to the foundation, at least one major structural system (such as walls) of the existing building shall remain in place after the remodel for the building to be eligible for compliance under Section 305.3. Where one major structural system of the existing building is not preserved, compliance with the new building requirements in accordance with Section 303 or Section 305 as applicable.

	2) **305.3.1.1 Additions.** For a remodeled building that includes an addition greater than 400 square feet, the entire building including the addition shall comply with the criteria of Section 305.3. The total above-grade conditioned area added during a remodel shall not exceed 75% of the existing building's above-grade conditioned area. For multi-unit buildings, the above-grade conditioned area shall be based on the entire building including all dwelling units and common areas.
	Reason: 1)A pointer is needed to address situations where the foundation is left in place but no other major structural systems remain. 2)small remodeling section lists 400 square feet as a maximum.

	Section Number: Other for Chapter 3 (include section number and title below)
	Full Name: Miki Cook, Austin Energy Green Building
	Requested Action: Revise as follows
	Suggested Changes: Define mandatory improvements to the entire envelope and major mechanical systems.
	Reason: Many of the items in Section 11 that do not define minimums, either, but only refer to the "new," "newly installed", or "exposed or created during the remodel." Yet, section 305.2 through 305.3.4 consistently indicate criteria, mandatory requirements, and rating apply to "whole building", and 305.3.7 indicates "attributes of the existing building that were in compliance with...Ch.11 prior to the remodel and remain in compliance after...shall be eligible for contributing points..." So, it is confusing whether elements that are not in compliance before the remodel but are not "exposed" during the remodel, are required to be address for certification of the "whole house", as they should be. It appears that if the project can meet the requirements for energy, water, and points, it can be certified even though the scope of the remodel may fail to address known issues with the Building Thermal Envelope (11.701.4.3.1) for example, which only requires those issues to be addressed in areas "exposed or created" in the remodel. As a Verifier for NGBS, if I am confused about what qualifies the whole building for certification, imagine what controversy this can create in the marketplace.

	Section Number: Other for Chapter 3 (include section number and title below)
	Full Name: Miki Cook, Austin Energy Green Building
	Requested Action: Revise as follows
	Suggested Changes: Perhaps using a defined energy modeling software program and creating a usable water calculator with defined procedures for before and after calculations.
	Reason: 305.3.5.1 and 305.3.6 (Energy and Water Efficiency) improvements determined by third-party audit: not certain how visual audits can be used to calculate or even estimate energy and water usage. Is this energy modeling? needs further definition of acceptable method and criteria for deriving/determining/calculating usage that can be measured against improvement. Also, if the "method of water...consumption estimates shall be the same before and after", again how does a visual audit determine/calculate usage based on piecemeal improvements to various existing components (note that many Ch. 11 items do not define minimums or only apply to "exposed or created" portions remodeled. If "before" consumption is based on historic utility data and the same method must be used for the "after" calculation, must you wait a year to collect that date in order to substantiate the improvement calculation?

PC017 LogID 900 305 Green Remodeling *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	This public comment supplements public comment PC016 by Sullivan. It provides threshold levels for Table 305.2.5 in

	PC016. **Table305.2.5 Prescriptive Threshold Point Ratings** | | Bronze | Silver | Gold | Emerald | | Chapter 11 prescriptive practices | ~~TBD~~20% | ~~TBD~~34% | ~~TBD~~43% | ~~TBD~~50% |
Reason:	This update is provided in support of the public comment submitted by Task Group 7 to revise the remodeling provisions (PC016).
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **Table 305.2.5 Prescriptive Threshold Point Ratings** | | Bronze | Silver | Gold | Emerald | | Chapter 11 prescriptive thresholds ~~practices~~ | ~~20%~~88 | ~~34%~~125 | ~~43%~~181 | ~~50%~~225 |
Committee Reason:	The new thresholds are shown in terms of points as consistent with the format for threshold levels for new construction. The thresholds are established as follows: 1) The totals for thresholds for new construction provide the starting point. 2) The new construction thresholds for energy and water are subtracted because both categories are addressed separately in the remodeling provisions. 3) The remaining totals are taken at 50% recognizing that remodeling projects offer fewer opportunities toaccumulate points than new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC018 LogID 781 305.2.2 Energy and water consumption *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**(1) Energy consumption comparison**: Energy consumption must comply with the performance requirements for Energy Star Version e3.0 or achieve a HERS index at or below Energy Star Version 3.0 index target.~~shallbe based on the estimated annual energy use due to heating, cooling, and waterheating as determined by a third-party energy audit or analysis. The comparison is based on the percentagedifference between the HERS index before and the HERS index after theremodeling calculated as follows: (HERSbefore-HERSafter)/HERSbefore*100.~~
Reason:	HERS comparisons before and after can be problematic without a benchmark, especially in projects involving change of occupancy. Energy star version 3.0 provides a well established, solid, and familiar benchmark to guarantee a basic minimum level of energy performance for the results of a retrofit. LEED suffered in early versions for the mistake of not employing a minimum energy standard and lost credibility in the marketplace accordingly. This system simplifies compliance with the use of familiar equipment.
Committee Action from Meeting:	**Reject**

Modification of Public Comment:	
Committee Reason:	Rejected in favor of committee's action on PC019. HERS index is not accepted as a metric for the NGBS. Performance improvements relative to the existing building are used as a metric since the 2008 NGBS edition.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC019 LogID 796 305.2.2 Energy and water consumption *Final Formal Action:* Accept as Modified

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	Consumption for both energy and water consumption shall be <u>compared</u> ~~estimated for both~~ before and after the remodeling. The occupancy and life style assumed and the method of making the consumption comparison should be the same for both <u>comparisons</u> ~~estimates~~. (1) Energy consumption comparison: Energy consumption shall be based on the ~~estimated~~ building's annual energy use ~~due to heating, cooling, and water heating~~ as determined by a third-party energy audit or analysis. The comparison is based on the percentage difference between the HERS index before and the HERS index after the remodeling calculated as follows: (HERSbefore-HERSafter)/HERSbefore*100.
Reason:	Every effort should be made to analyze the actual consumption. Estimating seems too loose a word. Also items such as lighting should also be included in the analysis and therefore the analysis should not be limited to heating cooling and water heating.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **~~305.2.2~~** ~~Consumption for both energy and water consumptionshall be estimated for both before and after the remodeling. The occupancy and life style assumed and the method of making theconsumption comparison should be the same for both estimates.~~ **305.2.5.1 Energy consumption reduction.** The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings as determined by a third-party energy audit and analysis or utility consumption data. The reduction shall be the percentage difference between the consumption per square foot before and after the remodel calculated as follows: [(consumption per square foot before remodel - consumption per square foot after remodel)/consumption per square foot before remodel]*100% The occupancy and life style assumed and the method of making the energy consumption estimates shall be the same for estimates before and after the remodel. The building configuration for the after-remodel estimate shall include any additions to the building or other changes to the configuration of the conditioned space. For multi-unit buildings, the energy consumption shall be based on the entire building including all dwelling units and common areas.

Committee Reason:	The new language provides additional guidance on compliance with the provisions.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC020 LogID 810 401.4 Low-slope site *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	~~401.4 Low-slope site. A site with an average slope calculation of less than 15% is selected~~. ~~TBD~~
Reason:	This is a difficult standard to verify and inspect. Furthermore, automatic points should not be awarded for lots located in an area with little naturally occurring slope (many lots). If anything, a requirement deducting points for building on steeper slopes would be appropriate.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Low-slope site is valid as a points item. Task Group on Land Development and the Consensus Committee discussed this extensively and maintain their opinion that selection of a site with beneficial attributes (e.g., low slope) is appropriate for attaining points within a rating system of the NGBS.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC021 LogID 901 403.6(13) Landscape Plan *Final Formal Action:* Accept

Submitter:	**Ed Tombari, NAHB**
Public Comment:	(13) Cisterns, rain barrels, and similar tanksare structures designed to intercept and store runoff. These systems may beabove or below ground, and they may drain by gravity or be pumped. Stored watermay be slowly released to a pervious area, and used for irrigation of lawn,trees, and gardens located in common areas. ~~X percent of site area is to beirrigated by these means and demonstrated on the site plan.~~
Reason:	A percentage figure was never included here(indicated by X). The task group then decided that they

	would rather eliminatethe language altogether than determine a percentage. Because this is forChapter 4 site development, this would be for common areas, therefore thiswould be a minor practice. Therefore, it was determined that determining a“Percentage” was not as critical in awarding points for this practice as itwould be for a “lot.”
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC022 LogID 627 403.10 Existing and Recycled Materials *Final Formal Action:* Accept

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**403.10 Existing and recycled materials.** Existing or recycled materials are used as follows. (Points awarded for every 10 percent of total building construction and demolition materials that are reused, deconstructed, and/or salvaged. The percentage is consistently calculated on a weight, volume, or cost basis.) **(1)** Existing pavements, curbs, and aggregates are salvaged or reincorporated into the development. **(2)** Recycled asphalt or concrete is utilized in the project.
Reason:	Points acquired for this section rely more on the waste of existing and recycled materials on, or being removed, from the site; Therefore, "demolition" has been added to acknowledge materials acquired from structure removal.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Demolition is a good addition to this practice.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

PC023 LogID 666 403.3 Slope Disturbance *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**403.3 Slope disturbance.** Slope disturbance is minimized by one or more of the following: **(2)** All or a percentage of roads are aligned with natural topography to reduce cut and fill. **(a)** ~~less than~~ 10% to 25 percent **(b)** 25 percent to 75 percent **(c)** greater than 75 percent
Reason:	0 percent is less than 25% and points should not be given for not avoiding any slope disturbance.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Committee agrees that 10% is a better minimum threshold for this practice.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC024 LogID 667 403.5 Storm Water Management *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**403.5 Storm water management.** Storm water is managed using management design includes one or more of the following low-impact development techniques: **(3)** Permeable materials are selected/specified for common area roads, driveways, parking areas, walkways, and patios. **(a)** ~~less than~~ 10% to 25 percent **(b)** 25 percent to 75 percent **(c)** greater than 75 percent
Reason:	0 percent is less than 25% and points should not be given for not using any permeable materials.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Committee agrees that 10% is a better minimum threshold for this practice.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35**

	Disapprove: 0 **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC025 LogID 733 403.5 Storm Water Management *Final Formal Action:* Reject

Submitter:	**Howard Fortunato, LandmarkJCM**
Public Comment:	see comments above.
Reason:	403.5 (4) as a verifier, the language of "volume of the 95th percentile storm event" would not be readily accessible or clear to verify. Stormwater plans will not necessarily refer to this and an stormwater engineer told me the verifier would need to look at engineering calculations to verify this. Perhaps there is some other reference which shows on stormwater plans that could be referenced.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This is already a federal requirement. Therefore, it is necessary.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC026 LogID 790 403.5 Storm Water Management *Final Formal Action:* Reject

Submitter:	**Shari Hendley, J.S. Hovnanian & Sons**
Public Comment:	Suggest another type of test or reference that may be more readily found on the site/stormwater plans.
Reason:	"volume of the 95th percentile storm event" in 403.5(4) sounds excessive and difficult to prove or disprove.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This is already a federal requirement. Therefore, it is necessary.
Ballot Results on	**Eligible to vote: 41**

Committee Action:	**Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC027 LogID 668 403.6 Landscape Plan *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**403.6 Landscape plan.** A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following. **(13)** Cisterns, rain barrels, and similar tanks are structures designed to intercept and store runoff. These systems may be above or below ground, and they may drain by gravity or be pumped. Stored water may be slowly released to a pervious area, and/or used for irrigation of lawn, trees, and/or gardens located in common areas. X percent of site area is to be irrigated by these means and demonstrated on the site plan.
Reason:	Add the word "or" to clarify that both uses are not required.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC028 LogID 717 403.6 Landscape Plan *Final Formal Action:* Accept as Modified

Submitter:	**Brent Mecham, Irrigation Association**
Public Comment:	Delete all of the following: The percentage of all turf areas are limited as part of the landscaping. (a) 0 percent 4 (b) greater than 0 percent to less than 25 20 percent 3 (c) 25 20 percent to less than 50 40 percent 2 (d) 50 40 percent to 75 60 percent Add: Use EPA WaterSense Water Budget Tool for New Homes 4 points
Reason:	The limitation of turf seems to be arbitrary and does not consider the climate where the project is located. Often turfgrass is used in storm water management for its ability to stabilize the soil and to offer improved permeability and infiltration, evapotranspiration. Especially useful in climates with high

	natural precipitation
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* (4) The percentage of all turf areas are limited as part of the landscaping. (a) 0 percent or EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas (b) greater than 0 percent to less than 20 percent (c) 20 percent to less than 40 percent (d) 40 percent to 60 percent
Committee Reason:	This is not a mandatory item. The EPA tool is included to provide a more flexible option for compliance based on the specific climate. The prescriptive option is retained to provide an additional approach where the EPA tool is not used.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Randall Melvin:*** As supported by comments in pc029 addtional tuff areas, depending on specific circumstances can be actually be benefical and should not be encouraged to be restriced under all circumstances.
Ballot Comment(s) for Abstain:	

PC029 LogID 737 403.6 Landscape Plan *Final Formal Action:* Reject

Submitter:	**Greg Johnson, Greg Johnson Consulting**
Public Comment:	Award 0 points for limiting the percentage of all turf areas as part of the landscaping
Reason:	The Outdoor Power Equipment Institute became aware of the NGBS standards activity after the first round of comments had closed; otherwise we would have commented to strike all of Sections 403.6. (4) and 503.5 (3). Instead, since points are still open for comment, we request that the points for turf limitations in Sections 403.6. (4) and 503.5 (3) be stricken and reallocated to other more appropriate sustainable practices within their respective sections. The proposed revisions to Sections 403.6 (4) and 503.5 (3) that expand disincentives for turfgrass areas conflict with the intent of the NGBS and aren't consistent with other trends in landscape regulation. The 'less turf-more points' formula suggests a negative environmental value to turfgrass and completely discounts its positive social, safety, and environmental attributes. Limiting turfgrass also limits builder flexibility in installing landscapes for the best site specific environmental performance and inhibits offering a green residential building able to compete on an apples-to-apples basis for curbside appeal. There is extensive scientific documentation of the valuable roles that turfgrass plays in stormwater management, for both erosion control and filtration; the control of wind erosion; carbon sequestration; and the mitigation of heat island effects. (end note 1.) Consider, for example, the cooling benefits of turfgrass. In some instances, ground level temperatures of grass-covered land areas are 30 to 40 degrees cooler than bare soil. They are also 50 to 70 degrees cooler than hardscaped (asphalt or concrete) areas . Reducing turfgrass only contributes to the 'heat island' effect which in turn increases demand for energy.(end note 2.) In addition to its cooling properties, managed turfgrass plays a positive role in our efforts to confront climate change. A well maintained, growing lawn that is fed by nutrients from grass clippings sequesters carbon from the atmosphere and helps to minimize the property's carbon footprint (end note 3.). Reducing turf areas and replacing them with mulch or

	hardscape makes active carbon 'sinks' inactive, potentially increasing the carbon released back into the atmosphere by exposing soils or using non-growing, decaying materials such as mulch. These alternative methods can be aesthetically appealing and help control water run-off and use, but they do not share the turfgrass benefit of contributing to the reduction of greenhouse gas emissions. The benefits of turfgrass in regard to soil erosion are also well documented. Research shows that a healthy, well-managed lawn with dense turfgrass has near zero storm water runoff and provides an effective infiltration mechanism. In his public comment to GG 243-11 of the International Green Construction Code, Dr. Brian Horgan, assistant professor of horticulture at the University of MN, wrote that "The thatch-forming capabilities of turfgrass in combination with a permanent and dense plant structure yields a less channelized pathway for water movement, which increases resistance, horizontal spread, and infiltration of surface runoff." For people who want to review the technical issues in depth, an extensive bibliography accompanies Dr. Horgan's IGCC 243-11 comment. That comment can be found on page 404 of the IGCC Final Action Agenda at: www.iccsafe.org/cs/IGCC/Pages/2011FinalActionAgenda Dr. Horgan's bibliography is offered in contrast to the complete absence of scientific foundation that was offered when turfgrass disincentives were suggested through public comment to the initial draft of the NGBS when the commenter merely referred to a few local green building programs in arid regions and stated: "Seems reasonable to give credit for both limited grass, as well as almost or no grass." Similarly, in this cycle of ICC-700, the EPA comment to create stronger disincentives for turfgrass installation was presented with arbitrary targets with no scientific justification. In the EPA comment the statement was made that "EPA supports the inclusion of a practice restricting turf areas in landscaping…" This conflicts with the EPA's August 12, 2011 public comment to GG 243-11 of the IGCC in which the agency asks for turf area restrictions to be eliminated, saying instead that "… a water budget approach would be preferable to guide landscape design, irrespective of the source of irrigation…" It also conflicts with the October 21, 2011 WaterSense Notification of Intent in which the EPA announced its intent to remove the 40% turf limitation from the WaterSense Specification and the White House's Council on Environmental Quality's October 31, 2011 Guidance for Federal Agencies on Sustainable Practices for Designed Landscapes which has no prescriptive turf limitation and in fact recommends the use of turf for certain circumstances. This philosophical approach parallels the action of the International Code Council's membership which overwhelmingly rejected all turf limitations at the final action hearings for the IGCC on November 3, 2011. The best way to facilitate a market approach to green building demand is to offer features that the public wants while providing buildings and sites with superior environmental performance. There was extensive discussion during the development of the first edition of the NGBS about prohibiting fire places and swimming pools from green residential buildings or awarding 'negative points' to buildings that offered those amenities. The committee wisely rejected approaches that created disincentives to demand for green residential buildings. Turfgrass is a similar amenity. For many people the maintenance of a lawn is a hobby of choice and a matter of pride. It's also affordable, for both installation and maintenance, which can help foster more green building demand. Simply, many people like turfgrass and many would want to own or live in a green residential building with the amenity. Beyond amenities, turfgrass has larger societal benefits as well. It is the superior vegetative surface material for athletic activity, both organized and informal. It is unparalleled as a vegetative surface for viewing performances and other outdoor assembly uses and social gatherings. It is the most accessible traveling surface, other than hardscapes, as it allows for unobstructed, omni-directional movement. Where public safety is a concern, it is an inviting feature because it doesn't permit undesirable lurking. For fire safety purposes turfgrass serves as defensible space for compliance with the Wildland Urban Interface Code and, when used with Grasscrete or similar materials, is suitable for use as a fire access lane. Finally, the division of points in our proposed change doesn't reduce the total amount of points available for providing a landscape plan designed to limit water and energy use. Instead those points are allocated to other practices that demonstrably preserve or enhance the natural environment and which can benefit from the inclusion of turfgrass as an environmentally sound landscape strategy. Note that the greatest point increase is given to providing vegetation that is native or regionally appropriate for local growing conditions which is the best option in these sections for fostering water efficiency. Notes: 1. University of Minnesota. 2006. Environmental Benefits of a Healthy, Sustainable Lawn. Sustainable Urban Landscape Information Series. http://www.sustland.umn.edu/maint/benefits.htm 2. Beard, J.B. and R.L. Green. 1994. The Role of Turfgrasses in Environmental Protection and Their Benefits to Humans. Journal of Environmental Quality. Vol 23:3 3. Sahu, R. 2008. Technical Assessment of the Carbon Seguestration Potential of Managed Turfgrass in the United States. Outdoor Power Equipment Institute (OPE/). Alexandria, VA.

Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Based on the action taken on PC028.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC030 LogID 752 405.9 Open Space *Final Formal Action:* Accept

Submitter:	**Derek Huetinck, BeaconCrest Homes**
Public Comment:	**Open Space**. A portion of the gross area of the community has been set aside as open space ~~beyond local code requirement~~. (Points awarded for every 10% of the community set aside as open space ~~beyond local code requirement~~.)
Reason:	While awarding points for open space is appropriate, the reason for the open space should not be a factor in the awarding of points as open space provides the same benefits irrespective of its reason. Moreover, by calibrating points for open space against local codes, projects in different jurisdictions will be held to different standards which will take away from the uniformity of the standard.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC031 LogID 650 501.1 Lot *Final Formal Action:* Reject

Submitter:	**Steve Hale, Build Green NM**
Public Comment:	**501.1 Lot.** The lot is selected to minimize environmental impact by one or more of the following:

	(1) The builder selects a lot within an NGBS certified green community or equivalent on which to build. ~~4~~ 20 for 4-star ~~3~~ 15 for 3-star ~~2~~ 10 for 2-star ~~1~~ 5 for 1-star green community
Reason:	There are over 170 points available for certifying a subdivision in chapter 4 of the NGBS. A certified subdivision will be easier to build a sustainable home on but there is a disconnect between chapter 4 and chapter 5 of the NGBS.(use the simple example of how proper lot orientation helps with the heating and cooling needs of the home) With so many practices available that can help the builder get a head start on their certification there is a definite need to incentivise a developer to build a certified subdivision. The best incentive is to give more points in chapter 5 to a builder that chooses to build in a certified subdivision. I suggest changing the point structure of this practice.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This change is not applicable because we are no longer proposing a point gradation for this practice. The proposed points are out of proportion with our recommended points throughout this chapter. This practice is an addition to the chapter, recognizing the importance of giving some credit for the wisdom of starting with a lot in a pre-certified project. However, consensus committe finds the current point levels appropriate.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC032 LogID 811 501.1 Lot *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	~~501.1 (5) Low-slope site. A site with an average slope calculation of less than 15% is selected. TBD~~
Reason:	This is a difficult standard to verify and inspect. Furthermore, automatic points should be awarded for lots located in an area with little naturally occurring slope(many lots). If anything, a requirement deducting points for building on steeper slopes would be appropriate.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Low-slope site practice should remain because it makes sense to select a site that does not need significant development – you obtain the same benefit as creating a low slope site. In addition, determining the average slope is not a difficult calculation. The decision making should be awarded points. Task Group on Land Development and the Consensus Committee discussed this extensively and maintain their opinion that selection of a site with beneficial attributes (e.g., low slope) is appropriate for attaining points within a rating system of the NGBS.

Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC033 LogID 669 503.2 Slope Disturbance *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**503.2 Slope disturbance.** Slope disturbance is minimized by the use of terrain adaptive architecture including terracing, retaining walls, landscaping, or other re-stabilization techniques. **(2)** All or a percentage of driveways and parking are aligned with natural topography to reduce cut and fill. **(a)** ~~less than~~ 10% to 25 percent **(b)** 25 percent to 75 percent **(c)** greater than 75 percent
Reason:	0 percent is less than 25% and points should not be given for not aligning any of the driveway. Is the intent of this practice to provide 5 points to any driveway on a flat lot? If not then the practice should be modified to reflect that.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	This change is consistent with Chapter 4 changes.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC034 LogID 902 503.2 Slope disturbance *Final Formal Action:* Accept as Modified

Submitter:	**Ed Tombari, NAHB**
Public Comment:	**503.2 Slope disturbance.** Slope disturbance is minimized by: ~~the use of terrain adaptive architecture including terracing, retaining walls, landscaping, or other re-stabilization techniques.~~ (1) The use of terrain adaptive architecture including terracing, retaining walls, landscaping, or other re-stabilization techniques. *(Note: the remaining practices will be renumbered accordingly)*

Reason:	This was merely an organizational error of the structure of the language. Please revise the structure so that these are listed as 5 practices rather than as four as indicated in the Draft Standard.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	The minimum threshold percentage for driveways and parking (Item (3) in Draft #2) is changed to 10 percent in accordanace with PC33.
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	**Section Number:** 503.2 Slope Disturbance **Full Name:** Brian Mount, TexEnergy Solutions **Requested Action:** Revise as follows **Suggested Changes:** **Slope disturbance.** Slope disturbance is minimized by (any of the following): **Reason:** Section is confusing as to either measure can be taken or both measures can be taken.

PC035 LogID 797 503.4 Storm Water Management *Final Formal Action:* Reject

Submitter:	**Shari Hendley, J.S. Hovnanian & Sons**
Public Comment:	Suggest another type of test or reference that may be more readily found on the site/stormwater plans.
Reason:	503.4(5) "volume of the 95th percentile storm event" sounds excessive and difficult to prove or disprove.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This is already a federal requirement. Therefore, it is necessary.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s)	

for Abstain:	

PC036 LogID 738 503.5 Landscape Plan *Final Formal Action:* Accept as Modified

Submitter:	**Greg Johnson, Greg Johnson Consulting**
Public Comment:	Award 0 points for the elimination or restriction of turfgrass areas
Reason:	The Outdoor Power Equipment Institute became aware of the NGBS standards activity after the first round of comments had closed; otherwise we would have commented to strike all of Sections 403.6. (4) and 503.5 (3). Instead, since points are still open for comment, we request that the points for turf limitations in Sections 403.6. (4) and 503.5 (3) be stricken and reallocated to other more appropriate sustainable practices within their respective sections. The proposed revisions to Sections 403.6 (4) and 503.5 (3) that expand disincentives for turfgrass areas conflict with the intent of the NGBS and aren't consistent with other trends in landscape regulation. The 'less turf-more points' formula suggests a negative environmental value to turfgrass and completely discounts its positive social, safety, and environmental attributes. Limiting turfgrass also limits builder flexibility in installing landscapes for the best site specific environmental performance and inhibits offering a green residential building able to compete on an apples-to-apples basis for curbside appeal. There is extensive scientific documentation of the valuable roles that turfgrass plays in stormwater management, for both erosion control and filtration; the control of wind erosion; carbon sequestration; and the mitigation of heat island effects. (end note 1.) Consider, for example, the cooling benefits of turfgrass. In some instances, ground level temperatures of grass-covered land areas are 30 to 40 degrees cooler than bare soil. They are also 50 to 70 degrees cooler than hardscaped (asphalt or concrete) areas . Reducing turfgrass only contributes to the 'heat island' effect which in turn increases demand for energy.(end note 2.) In addition to its cooling properties, managed turfgrass plays a positive role in our efforts to confront climate change. A well maintained, growing lawn that is fed by nutrients from grass clippings sequesters carbon from the atmosphere and helps to minimize the property's carbon footprint (end note 3.). Reducing turf areas and replacing them with mulch or hardscape makes active carbon 'sinks' inactive, potentially increasing the carbon released back into the atmosphere by exposing soils or using non-growing, decaying materials such as mulch. These alternative methods can be aesthetically appealing and help control water run-off and use, but they do not share the turfgrass benefit of contributing to the reduction of greenhouse gas emissions. The benefits of turfgrass in regard to soil erosion are also well documented. Research shows that a healthy, well-managed lawn with dense turfgrass has near zero storm water runoff and provides an effective infiltration mechanism. In his public comment to GG 243-11 of the International Green Construction Code, Dr. Brian Horgan, assistant professor of horticulture at the University of MN, wrote that "The thatch-forming capabilities of turfgrass in combination with a permanent and dense plant structure yields a less channelized pathway for water movement, which increases resistance, horizontal spread, and infiltration of surface runoff." For people who want to review the technical issues in depth, an extensive bibliography accompanies Dr. Horgan's IGCC 243-11 comment. That comment can be found on page 404 of the IGCC Final Action Agenda at: www.iccsafe.org/cs/IGCC/Pages/2011FinalActionAgenda Dr. Horgan's bibliography is offered in contrast to the complete absence of scientific foundation that was offered when turfgrass disincentives were suggested through public comment to the initial draft of the NGBS when the commenter merely referred to a few local green building programs in arid regions and stated: "Seems reasonable to give credit for both limited grass, as well as almost or no grass." Similarly, in this cycle of ICC-700, the EPA comment to create stronger disincentives for turfgrass installation was presented with arbitrary targets with no scientific justification. In the EPA comment the statement was made that "EPA supports the inclusion of a practice restricting turf areas in landscaping…" This conflicts with the EPA's August 12, 2011 public comment to GG 243-11 of the IGCC in which the agency asks for turf area restrictions to be eliminated, saying instead that "… a water budget approach would be preferable to guide landscape design, irrespective of the source of irrigation…" It also conflicts with the October 21, 2011 WaterSense Notification of Intent in which the EPA announced its intent to remove the 40% turf limitation from the WaterSense Specification and the White House's Council on Environmental Quality's October 31, 2011 Guidance for Federal Agencies on Sustainable Practices for Designed Landscapes which has no prescriptive turf limitation and in fact recommends the use of turf for certain circumstances. This philosophical approach parallels the action of the International Code Council's membership which overwhelmingly rejected all turf limitations at the final action hearings for the IGCC on November 3, 2011. The best way to facilitate a market approach to green building demand is to

	offer features that the public wants while providing buildings and sites with superior environmental performance. There was extensive discussion during the development of the first edition of the NGBS about prohibiting fire places and swimming pools from green residential buildings or awarding 'negative points' to buildings that offered those amenities. The committee wisely rejected approaches that created disincentives to demand for green residential buildings. Turfgrass is a similar amenity. For many people the maintenance of a lawn is a hobby of choice and a matter of pride. It's also affordable, for both installation and maintenance, which can help foster more green building demand. Simply, many people like turfgrass and many would want to own or live in a green residential building with the amenity. Beyond amenities, turfgrass has larger societal benefits as well. It is the superior vegetative surface material for athletic activity, both organized and informal. It is unparalleled as a vegetative surface for viewing performances and other outdoor assembly uses and social gatherings. It is the most accessible traveling surface, other than hardscapes, as it allows for unobstructed, omni-directional movement. Where public safety is a concern, it is an inviting feature because it doesn't permit undesirable lurking. For fire safety purposes turfgrass serves as defensible space for compliance with the Wildland Urban Interface Code and, when used with Grasscrete or similar materials, is suitable for use as a fire access lane. Finally, the division of points in our proposed change doesn't reduce the total amount of points available for providing a landscape plan designed to limit water and energy use. Instead those points are allocated to other practices that demonstrably preserve or enhance the natural environment and which can benefit from the inclusion of turfgrass as an environmentally sound landscape strategy. Note that the greatest point increase is given to providing vegetation that is native or regionally appropriate for local growing conditions which is the best option in these sections for fostering water efficiency. Notes: 1. University of Minnesota. 2006. Environmental Benefits of a Healthy, Sustainable Lawn. Sustainable Urban Landscape Information Series. http://www.sustland.umn.edu/maint/benefits.htm 2. Beard, J.B. and R.L. Green. 1994. The Role of Turfgrasses in Environmental Protection and Their Benefits to Humans. Journal of Environmental Quality. Vol 23:3 3. Sahu, R. 2008. Technical Assessment of the Carbon Seguestration Potential of Managed Turfgrass in the United States. Outdoor Power Equipment Institute (OPE/). Alexandria, VA.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* (3) The percentage of turf areas that is designed to be mowed is limited and shown on the lot plan. The percentage is based on the landscaped area of the lot not including the home footprint, hardscape, and any undisturbed natural areas. (a) 0 percent <u>or EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas</u> (b) greater than 0 percent to less than 20 percent (c) 20 percent to less than 40 percent (d) 40 percent to 60 percent
Committee Reason:	This is not a mandatory item. The EPA tool is included to provide a more flexible option for compliance based on the specific climate. The prescriptive option is retained to provide an additional approach where the EPA tool is not used.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC037 LogID 753 503.5 Landscape Plan *Final Formal Action:* Reject

Submitter:	**Derek Huetinck, BeaconCrest Homes**
Public Comment:	Species and locations for trees or tree planting of at least 3 trees are identified on the lot plan that will provide summer shading of streets, parking areas, and buildings to moderate temperatures within 5 years of completion of the building.
Reason:	The new language creates unnecessarily complicated calculations that will add unneeded costs to the certification process. The original language is better than the proposed new language.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The current language provides the necessary level of detail for implemenation of the practice. The language has been extensively vetted and wordsmithed by the committee.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC038 LogID 748 504.3 Soil disturbance and erosion implementation *Final Formal Action:* Accept as Modified

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	Delete 504.3(8) because it is the same item as 503.3(2) (utility installation strategy points).
Reason:	504.3(8) is the exact same item as 503.3(2). Recommend deleting one of the items or if the intent is to award 10 total pts, just award the points and list the item once.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* 503.3(2) At least 75% of total length of the ~~installed~~ utilities on the lot are ~~installed~~ designed to use~~ing~~ one or more alternative means:
Committee Reason:	This Chapter is organized such that points are awarded for design and construction separately to emphasize the importance of the design process. The modification is intended to clarify the difference between the two practices.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**

Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC039 LogID 639 505.2 Heat Island Mitigation *Final Formal Action:* Reject

Submitter:	**John Gant, Glen Raven Inc**
Public Comment:	Reject (3) as proposed.
Reason:	The proposed "(3)Permeable Hardscaping" is a consideration of storm water management and does not belong in this section. Delete from here, as they are absolutely not directly related and certainly not substitutable as alternatives for this credit.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Because permeable hardscape is less dense, it reduces heat island effect and therefore it is appropriate for this credit.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC040 LogID 640 505.2 Heat Island Mitigation *Final Formal Action:* Reject

Submitter:	**John Gant, Glen Raven Inc**
Public Comment:	Substitute "July 20th at 4 pm" for "summer solstice at noon".
Reason:	The moment of evalutation is given as "summer solstice at noon" which is one month earlier than the peak cooling moment, and which is a high sun angle that does not optimize performance of shading which should be designed to work for the insolation endured for the hours from 10 am to 4 pm. A change should be made so that south-side shading is more valued than north-side shading (over a parking lot for instance), which is very true.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	"Summer Solstice" is a widely accepted industry term for for measuring solar reflectivity. July 20th is an arbitrary date.
Ballot Results on Committee Action:	**Eligible to vote: 41**

	Approve: 35 **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC041 LogID 641 505.2 Heat Island Mitigation *Final Formal Action:* Accept as Modified

Submitter:	**John Gant, Glen Raven Inc**
Public Comment:	Add "(c) Areas immediately occupied by solar thermal or solar electric systems."
Reason:	Item (4) should recognize roof areas that are specifically dedicated to solar electric or solar thermal equipment.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* 505.2(4) Roofs: Not less than 75 percent of the <u>exposed</u> surface of the roof meets one or a combination of the following methods.
Committee Reason:	The modification incorporates the intent of the proposed change.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC042 LogID 670 505.2 Heat Island Mitigation *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**505.2 Heat island mitigation.** Heat island mitigation. Any combination One or more of the following strategies are provided for a minimum of 50 percent of the <u>total</u> horizontal surface area of the hardscape <u>and roofs</u> on the lot:
Reason:	There is now a sub practice related to roof surfaces. Since roofs do not meet the definition of hardscape, roofs should explicitly be included in the areas targets to meet the 50% threshold.
Committee Action from Meeting:	**Accept as Modified**
Modification of	*Revise Draft Standard as follows:*

Public Comment:	**505.2 Heat island mitigation.** ~~One or more of the following strategies are provided for a minimum of 50 percent of the horizontal surface area of the hardscape on the lot:~~ Heat island effect is mitigated by the following. ~~4 points~~ (1) Hardscape: Not less than 50 percent of the surface area of the hardscape on the lot meets one or a combination of the following methods. 5 points ~~(1)~~(a) Shading of hardscaping: Shade is provided from existing or new vegetation (within five years) or from trellises. Shade of hardscaping is to be measured on the summer solstice at noon. ~~(2)~~(b) Light-colored hardscaping: Horizontal hardscaping materials are installed with a solar reflectance index (SRI) of 29 or greater. The SRI shall be calculated in accordance with ASTM E1980. A default SRI value of 35 for new concrete without added color pigment is allowed to be used instead of measurements. ~~(3)~~(c) Permeable hardscaping: Permeable hardscaping materials are installed. ~~(4)~~(2) Roofs: Not less than 75 percent of the exposed surface of the roof meets one or a combination of the following methods. 5 points (a) Minimum initial ~~Solar Reflectance Index~~SRI of 78 for a low-sloped roof (a slope less than or equal to 2:12) and a minimum initial ~~Solar Reflectance Index~~SRI of 29 for a steep-sloped roof (a slope of more than 2:12). The SRI shall be calculated in accordance with ASTM E1980. Roof products shall be labeled and certified. (b) Roof is vegetated using technology capable of withstanding the climate conditions of the jurisdiction and the microclimate conditions of the building site. Invasive plant species are not permitted.
Committee Reason:	The percentages should be set separately for hardscape and roofs.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC043 LogID 704 505.2 Heat Island Mitigation *Final Formal Action:* Accept as Modified

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	505.2(2) – Heat island mitigation via materials with solar reflectance of 29.
Reason:	No guidance as to whose numbers we can use to determine solar reflectance.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	See modification to PC042.
Committee Reason:	Addressed in modification to PC042 by specifying ASTM E1980.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0**

	Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC044 LogID 835 505.2 Heat Island Mitigation *Final Formal Action:* Reject

Submitter:	**Craig Conner, Building Quality**
Public Comment:	602.2 Roof surfaces. Delete and replace with **Roof solar reflectance and thermal emittance.** In climate zones 1, 2,and 3 roof coverings shall comply with this section. Roof requirements in Section C402.2.1.1 of the *InternationalEnergy Conservation Code* shall apply, including the exceptions. Where not exempted, high sloped roofs, with a slope less than of 2 units vertical in 12 horizontalor more shall comply with IECC Section 502.2.1.1. Roofs with other slopes shall comply with at least one of the four options in Table. **MINIMUM REFLECTANCE AND EMITTANCE FOR OTHER THAN LOW HIGH-SLOPED ROOFS** a. The use of area-weighted averages to meet these requirements shall be permitted. Materials lacking initial tested values for either *solar reflectance* or *thermal emittance*, shall be assigned both an initial *solar reflectance* of 0.10 and an initial *thermal emittance* of 0.90. Materials lacking three-year aged tested values for either *solar reflectance* or *thermal emittance* shall be assigned both a three-year aged *solar reflectance* of 0.10 and a three-year aged *thermal emittance* of0.90. b. Tested solar reflectance and thermal emittance shall be in accordance with CRRC-1Standard. c. Solar reflectance index(SRI) shall be determined in accordance with ASTM E1980 using a convection coefficient of 2.1 BTU/h-ft2-F (12W/m2.K).Calculation of aged SRI shall be based on aged tested values of solar reflectance and thermal emittance. Calculation of initial SRI shall be based oninitial tested values of solar reflectance and thermal emittance.
Reason:	Use more appropriate cool roof requirements. Cover both high and low slope roofs.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The comment is not applicable to this practice - the topic is covered in Chapter 6 Section 602.2. The table noted in the comment was not included with the comment. The proponent was present at the Consensus Committee meeting in Washington, DC in February of 2012 and recommended disapproval of his public comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	

Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC045 LogID 749 505.4 Mixed-use development *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	Recommend making it applicable to single family lots by awarding points for the lot being within X distance (to be determined by task group) of a mixed use building or within a mixed use community and providing examples/definition of "mixed-use".
Reason:	505.4 is not clear how this may apply to typical single family lots, is this just a multi-family item? Also not clear what would be an acceptible mixed-use building on the lot, provide examples. Recommend making it applicable to single family lots by awarding points for the lot being within X distance (to be determined by task group) of a mixed use building or within a mixed use community.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This comment addresses Mixed-Use Environment, not Mixed-Use development. The proposed recommendation is not appropriate for this chapter or section. Points should be awarded only for onsite actions.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC046 LogID 751 505.5 Community Garden(s) *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	Revise to include a way for this item to be applicable to single family lots, such as pts awarded for lot being within X distance of a community garden or located in a community that provides access to a community garden plot.
Reason:	While this makes sense for multi-family lots, this is also not clear how it might apply to a typical single family lot. Seems worthy of pts if could revise to allow single family lots within X distance of a community garden to receive the points or be located in a community that provides a garden plot.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Similarly to PC045, a building should not get credit for an off-site activity that the verifier cannot verify whether it will be incorporated.
Ballot Results on	**Eligible to vote: 41**

Committee Action:	**Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC047 LogID 799 601.1 Conditioned Floor Area *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	**601.1 Conditioned floor area.** Conditioned ~~Finished~~ floor area, as defined by ICC IRC ~~and calculated in accordance with NAHBRC Z765~~, of a dwelling unit is limited. Dwelling unit size ~~Finished floor area~~ is calculated in accordance with NAHBRC Z765. Only the conditioned ~~finished~~ floor area for stories above grade plane is included in the calculation.
Reason:	Materials in the building that are not part of the finished floor area still have an impact on the building.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This change in the Draft Standard was implemented in response to Proposed Changes submitted to address the issue of houses that do not have conditioning equipment such as in Hawaii. The current language in the Draft Standard provides more flexibility to meet the intent of the practice over various geographical and climatic regions.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC048 LogID 734 601.2 Material Usage *Final Formal Action:* Reject

Submitter:	**Howard Fortunato, LandmarkJCM**
Public Comment:	see above.
Reason:	601.2 (1) (2) (3) these seem to be non-specfic requirements, is sizes necessary for "strength and stiffness". As a verifier I am not clear how a builder would determine how to comply with this requirement and how as a verfier I would verify it.
Committee Action from Meeting:	**Reject**
Modification of	

Public Comment:	
Committee Reason:	See reason on PC049.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC049 LogID 813 601.2 Material Usage *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	~~601.2 Material usage. Building-code-compliant Structural systems are designed or advanced framing construction techniques are implemented that reduce and optimize material usage. (Points awarded for each system or framing technique implemented.)~~ ~~(1) Minimum structural member or element sizes necessary for strength and stiffness in accordance with advanced framing techniques or structural design standards are selected.~~ ~~(2) Higher-grade or higher-strength of the same materials than commonly specified for structural elements and components in the building are used and element or component sizes are reduced accordingly.~~ ~~(3) Performance-based structural design is used to optimize lateral force-resisting systems~~
Reason:	Inadequate language to reliably ensure intent.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The practice requires the use of engineering and therefore necessitates an inherent degree of flexibility.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC050 LogID 903 601.7 Site-applied finishing materials *Final Formal Action:* Accept

Submitter:	**Eric DeVito, Brickfield, Burchette, Ritts & Stone, P.C.**
Public Comment:	**601.7 Site-applied finishing materials.** Building materials or assemblies listed below that do not require additional site-applied material for finishing are incorporated in the building. (1) 90 percent or more of the installed building materials or assemblies listed below: (Points awarded for each type (a-g) of material or assembly.) (2) 50 percent to less than 90 percent of the installed building material or assembly listed below: (Points awarded for each type (a-g) of material or assembly.) (3) 35 percent to less than 50 percent of the installed building material or assembly listed below: (Points awarded for each type (a-g) of material or assembly.) (a) pigmented, stamped, decorative, or final finish concrete or masonry (b) interior trim not requiring paint or stain (c) exterior trim not requiring paint or stain (d) window, skylight, and door assemblies not requiring paint or stain on <u>one of the following surfaces:</u> <u>1.</u> exterior <u>surfaces</u> ~~or~~ <u>2.</u> interior surfaces (e) interior wall coverings or systems not requiring paint or stain or other type of finishing application (f) exterior wall coverings or systems not requiring paint or stain or other type of finishing application (g) pre-finished hardwood flooring
Reason:	This proposal clarifies the intent of Section 601.7 to award credit for window, doors, and skylight assemblies that do not require site-applied finishes on at least one surface (interior or exterior). The 2008 NGBS recognizes the value of popular fenestration products that may be pre-finished or metal-clad on the exterior side, while still preserving the design flexibility offered by an unfinished interior surface. Fenestration is distinct from other categories in the list of materials because each component actually has two surfaces – interior and exterior – which could require site-applied finishes. The latest NGBS public review draft revises the language in an attempt to clarify the application of this credit, but we believe code enforcers would benefit from some additional clarification on the subject. The modification below clarifies that credit is available for products that do not require site-applied finish on one of the two surfaces – interior or exterior.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC051 LogID 740 602.1 Moisture Management - Building Envelope *Final Formal*

Action: **Reject**

Submitter:	**Matthew Dobson, Vinyl Siding Institute**
Public Comment:	*Add new to Draft Standard as follows:* 602.1.9 (5) OR (c) Utilize a vented cladding system as defined by Section R702.7 of the International Residential Code.
Reason:	This additional provision will allow for recognized options of rainscreening techniques from the 2012 International Residential Code.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The proposed solution does not offer additional level of protection beyond the base code. Systems can be qualified under (a) or (b) that are in the document already.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	***Matthew Dobson:*** The committee reason states that the change would not add additional protection beyond the base code. This is incorrect., this reference to section R702.7 of the IRC actually prescribes specific material or systems that perform to meet the intent of a rainscreen system, but these materials and systems are not required. If these materials or system are not used than a vapor retarder will be required. This is just another way to evaluate rainscreening performance of wall coverings which is the intent of this new credit of the NGBS.
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC052 LogID 671 602.1.1 Capillary breaks *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**602.1.1.1** A capillary break and vapor retarder are installed at all concrete slabs adjoining ~~living~~ habitable and usable space in accordance with Sections 602.1.1.1(1) or 602.1.1.1(2), as modified by Section 602.1.1.1(3):
Reason:	The original text is not clear regarding basements. An unfinished basement might not qualify as living space but it could be finished later and then it would be too late to install a capillary break. If the intent is to exempt unfinished basements then the original text is OK.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* 602.1.1.1 A capillary break and vapor retarder are installed at ~~all~~ concrete slabs ~~adjoining living space~~ in accordance with IRC Sections R506.2.2 and R506.2.3 or IBC Sections 1910 and 1805.4.1. ~~Sections 602.1.1.1(1) or 602.1.1.1(2), as modified by Section 602.1.1.1(3):~~

	~~(1) A minimum 4-inch-thick (102 mm) bed of ½-inch (13 mm) diameter or greater clean aggregate, covered with polyethylene or polystyrene sheeting in direct contact with the concrete slab, with the sheeting joints lapped in accordance with Section 602.1.4.~~ ~~(2) A minimum 4-inch-thick (102 mm) uniform layer of sand, overlain with a layer or strips of geotextile drainage matting, covered with polyethylene sheeting, with the sheeting joints lapped in accordance with Section 602.1.4.~~ ~~(3) Modification: In areas with free-draining soils, identified as Group 1 in the ICC IRC by a certified hydrologist, soil scientist, or engineer through a site visit, a gravel bed or geotextile matting is not required.~~
Committee Reason:	The public comment raises a good question but the best solution for this mandatory item is to refer to the building code where all these questions are adequately addressed.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC053 LogID 696 602.1.1 Capillary breaks *Final Formal Action:* Reject

Submitter:	**Donn Thompson, Portland Cement Association**
Public Comment:	602.1.1.1 A capillary break and vapor retarder are installed at all concrete slabs adjoining living space in accordance with Sections 602.1.1.1(1) or 602.1.1.1(2), as modified by Section 602.1.1.1(3): Mandatory (1) A minimum 4-inch-thick (102 mm) bed of ½-inch (13 mm) diameter or greater clean aggregate, covered with polyethylene or polystyrene sheeting, minimum thickness 10 mil (25mm), in direct contact with the concrete slab, with the sheeting joints lapped in accordance with Section 602.1.4. (2) A minimum 4-inch-thick (102 mm) uniform layer of sand, overlain with a layer or strips of geotextile drainage matting, covered with polyethylene sheeting, minimum thickness 10 mil (25mm), with the sheeting joints lapped in accordance with Section 602.1.4. (3) Modification: In areas with free-draining soils, identified as Group 1 in the ICC IRC by a certified hydrologist, soil scientist, or engineer through a site visit, a gravel bed or geotextile matting is not required.
Reason:	Based on the recommendations of the American Concrete Institute, the minimum thickness of a vapor retarder should be at least 10 mils (25mm) to enable the retarder to maintain its integrety under construction loads.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The Standard does not preclude the use of 10 mil material. This is a mandatory item related to code without awarding points. The use of 10 mil in cold climate may not be appropriate. The benefit of changing from 6 to 10 mil does not justify mandatory status or points. Minor punctures from construction would not have a significant impact on performance.
Ballot Results on	**Eligible to vote: 41**

Committee Action:	**Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Donn Thompson:*** The proposed recommendations are based on consensus reached by the members of the American Concrete Institute and reflect sound construction practice that would be of benefit for the sustainable longevity and performance of buildings constructed under the NGBS.
Ballot Comment(s) for Abstain:	

PC054 LogID 674 602.1.13 Drip Edge *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	~~**602.1.13 Drip edge.** Drip edge is installed at eaves and gable roof edges.~~
Reason:	This practice should be deleted since it is already mandated in 602.1.9(1)(h).
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC055 LogID 605 602.1.14 Ice barrier *Final Formal Action:* Reject

Submitter:	**Chris Allison, City of Longmont**
Public Comment:	Add or refer to the IRC Figure R301.2(1) to indicate areas required to have ice barriers.
Reason:	Refer to IRC Figure R301.2(1) for the areas required to have ice barriers by this standard to avoid confusion.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The current language is adequate. ICC 700 covers IBC in addition to IRC. IBC does not have a similar figure or table.
Ballot Results on	**Eligible to vote: 41**

Committee Action:	**Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC056 LogID 672 602.1.4 Crawlspaces *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**602.1.4.1** Crawlspace vapor retarder is in accordance with the following, as applicable. Joints of vapor retarder overlap a minimum of 6 inches (152 mm) and are taped. **(1)** Floors. Minimum 6 mil vapor retarder installed on the crawlspace floor and extended up the wall ~~sufficient to allow~~ and the material ~~to be~~ is affixed with glue and furring strips.
Reason:	Is the intent here just to leave enough material available that the vapor barrier could be attached with furring strips or is the intent that the vapor barrier is actually attached with glue and furring strips?
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **602.1.4.1** Crawlspace vapor retarder is in accordance with the following, as applicable. Joints of vapor retarder overlap a minimum of 6 inches (152 mm) and are taped. **(1)** Floors. Minimum 6 mil vapor retarder installed on the crawlspace floor and extended at least 6 inches up the wall and is attached and sealed to the wall~~sufficient to allow the material to be affixed with glue and furring strips~~.
Committee Reason:	The public comment was unclear on whether the practice was specifying the material or the method of attachment. The modification clarifies this practice.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC057 LogID TG3-1 602.1.4.1 Crawalspaces *Final Formal Action:* Accept as Modified

Submitter:	**Randy Melvin (on behalf of Task Group 3), Winchester Homes**
Public Comment:	602.1.4.1 ~~Crawlspace v~~Vapor retarder in unconditioned crawlspace is in accordance with the following, as applicable. Joints of vapor retarder overlap a minimum of 6 inches (152 mm) and are taped.

Reason:	This change is proposed by TG-3 as a result of the review of point assignments for Section 602.1.4 Crawlspaces. This public comment clarifies that Section 602.1.4.1 is intended to award points only for unconditioned crawlspaces.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* 602.1.4.1 ~~Crawlspace v~~Vapor retarder in unconditioned vented crawlspace is in accordance with the following, as applicable. Joints of vapor retarder overlap a minimum of 6 inches (152 mm) and are taped.
Committee Reason:	Further clarification of intent.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC058 LogID 697 602.1.4 Crawlspaces *Final Formal Action:* Accept as Modified

Submitter:	**Donn Thompson, Portland Cement Association**
Public Comment:	602.1.4.2 Crawlspace that is built as a conditioned area is sealed to prevent outside air infiltration and provided with conditioned air at a rate not less than 0.02 cfm (.009 L/s) per square foot of horizontal area and one of the following is implemented: (1) a concrete slab over lapped ~~6~~ 10 mil (25mm) polyethylene or polystyrene sheeting, lapped a minimum of 6 inches (152mm) and taped at the seams.
Reason:	Based on the recommendations of the American Concrete Institute, the minimum thickness of membranes placed below concrete slabs should be at least 10 mils (25mm) to enable the retarder to maintain its integrety under construction loads. ACI also provides recommendations for the minimum lapping and tapping of seams.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* 602.1.4.2 Crawlspace that is built as a conditioned area is sealed to prevent outside air infiltration and provided with conditioned air at a rate not less than 0.02 cfm (.009 L/s) per square foot of horizontal area and one of the following is implemented: (1) a concrete slab over ~~lapped 6~~10 mil ~~(25mm)~~ polyethylene or polystyrene sheeting~~,~~ lapped a minimum of 6 inches (152 mm) and taped or sealed at the seams.
Committee Reason:	The proposed thickness of 10 mil is not accepted. The Standard does not preclude the use of 10 mil material. The benefit of changing from 6 to 10 mil does not justify awarding of points. The use of 10 mil in cold climate may not be appropriate. Minor punctures from construction would not have a significant impact on performance. "or sealed" is added as another compliance option.
Ballot Results on	**Eligible to vote: 41**

Committee Action:	**Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Donn Thompson:*** The proposed recommendations for thicker membrane are based on consensus reached by the members of the American Concrete Institute and reflect sound construction practice that would be of benefit for the sustainable longevity and performance of buildings constructed under the NGBS.
Ballot Comment(s) for Abstain:	
Public Comment(s):	**Section Number:** 602.1.4 Crawlspaces **Full Name:** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions **Requested Action:** Revise as follows **Suggested Changes:** (1) a concrete slab over 6 mil polyethylene ~~or polystryene~~ sheeting, lapped a minumum of 6 inches (152mm), and taped ~~or sealed~~at the seams or polystyrene sheathing taped or sealed at the seams. **Reason:** The way section 602.1.4.2(1) is written it is not constructable for all options. We suggest altering the language to make it workable.

PC059 LogID 798 602.1.5 Termite barrier *Final Formal Action:* Reject

Submitter:	**Ray Tonjes , Ray Tonjes Builder, Inc.**
Public Comment:	**602.1.5 Termite barrier.** Continuous physical foundation termite barrier used with low toxicity treatment or with no chemical treatment is installed in geographical areas that have subterranean temite infestation potential determined in accordance with Figure 6(3). Material and installation methods to be validated by the State's pest control authority or ICC-ES Evaluation Report.
Reason:	As there is no current definition of what constitutes a "continuous physical foundation termite barrier" there needs to be validation of the products and methods used to provide the termite infestation protection intended.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The proposed language is unnecessary and the definition and validations are adequately covered by the building code. It is not recommended to list specific evaluation agencies in the body of the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

PC060 LogID 673 602.1.9 Flashing *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**602.1.9 Flashing.** Flashing is provided to minimize water entry into wall and roof assemblies and to direct water to exterior surfaces or exterior water-resistive barriers for drainage. Flashing details are provided in the construction documents and are in accordance with the fenestration manufacturer's instructions, the flashing manufacturer's instructions, or as detailed by a registered design professional. **(1)** Flashing are installed at all of the following locations, as applicable: **Mandatory** **(a)** around exterior fenestrations, skylights and doors ~~**(6)** A drip cap is provided above windows and doors that are not flashed or protected by covering in accordance with Section 602.1~~
Reason:	Since (1)(a) is a mandatory requirement for flashing at all exteriors fenestrations it seems inconsistent to allow an exception to this mandatory requirement in (6) and also award 2 points for it.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC061 LogID 706 602.1.13 Drip Edge *Final Formal Action:* Accept

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	602.1.13 – Points for a drip edge are superfluous; that is all code now.
Reason:	Builders should not be rewarded for building to code.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	See PC054.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0**

	Abstain: 0 **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC062 LogID 633 603.1 Reuse of Existing Building *Final Formal Action:* Accept

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**603.1 Reuse of existing building.** Major elements or components of existing buildings and structures are reused, modified, or deconstructed for later use ~~in lieu of demolition~~.
Reason:	Demolition is an act of nonsystematic structure removal; it does not address what happens to a material after the structure has been removed, so its inclusion in this section adds confusion to the intent. Demolition may yield fewer recycled or salvaged materials than a structure that has been deconstructed; it does not guarantee that there isn't some success, so this term has been removed.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC063 LogID 675 603.1 Reuse of Existing Building *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**603.1 Reuse of existing building.** Major elements or components of existing buildings and structures <u>on the lot</u> are reused, modified, or deconstructed for later use in lieu of demolition.
Reason:	603.1 and 603.2 can easily be confused. If the intent is this practice be limited to that existing buildings on the lot then the addtional text will make it clear.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	It is not the intent of this section to limit this practice to the same lot. However, a change has been implemented to 603.2 as part of the points revision to clarify that 603.2 and 603.1 should not award

	points to the same material as follows: Materials, elements, or components awarded points under Section 603.1 shall not be awarded points under Section 603.2.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC064 LogID 676 603.2 Salvaged Materials *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**603.2 Salvaged materials.** Reclaimed and/or salvaged materials and components obtained off site are used. The total material value and labor cost of salvaged materials is equal to or exceeds 1 percent of the total construction cost.
Reason:	603.1 and 603.2 are often confused. Unless these practices are clarified a builder might try to claim points for both of these practices when an on-site building is deconstructed.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	It is not the intent of this section to limit this practice to offsite applications. However, a change has been implemented to 603.2 as part of the points revision to clarify that 603.2 and 603.1 should not award points to the same material as follows: Materials, elements, or components awarded points under Section 603.1 shall not be awarded points under Section 603.2.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC065 LogID 707 604.1 Recycled Content *Final Formal Action:* Reject

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	604.1 - A list format would be better.
Reason:	Better definitions as to what are 'minor and major' building components are needed.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Draft standard includes definitions for major and minor components. The list is provided in the commentary document published in 2009.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

PC066 LogID 632 605.2 On-site Recycling *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**605.2 On-site recycling.** ~~On-site recycling measures following applicable regulations and codes are implemented, such as the following:~~ ~~(a) Materials are ground or otherwise safely applied on-site as soil amendment or fill.~~ A minimum of 50 percent (by weight) of ~~construction and~~ nonhazardous land-clearing waste is diverted from landfill. ~~(b) Alternative compliance methods approved by the Adopting Entity.~~ ~~(c) Compatible untreated biomass material (lumber, posts, beams etc.) are set aside for combustion if a Solid Fuel Burning Appliance as per Section 901.2.1(2) will be available for on-site renewable energy.~~
Reason:	The intent of this section is unclear. Section 605.1 already addresses 50% construction waste diversion, and because the make-up of waste is so different, construction and land-clearing debris should not be included in the same diversion calculation; therefor, construction has been removed from this section. The encouragement of incineration does not meet the environmental intent of this standard.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The intent of the inclusion of Item c is to substitute available bio-fuel energy for other fuels. It is not incineration. It is bio-mass renewable energy. The practice requires compliance with Section 901.2.1(2). Section 605.1 is a plan, while Section 605.2 is a method of implementation. They are not the same. Section 605.2 encourages recycling on site, while Section 605.1 allows recycling and salvaging off site.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC067 LogID TG3-2 611.4 Food waste disposers *Final Formal Action:* Accept

Submitter:	**Randy Melvin (on behalf of Task Group 3), Winchester Homes**

Public Comment:	~~611.4 Food waste disposers. A minimum of one food waste disposer is installed at the primary kitchen sink. 1~~ 607.2 Food waste disposers. A minimum of one food waste disposer is installed at the primary kitchen sink. 1
Reason:	The Task Group relocated food waste disposers to Section 607 from Section 611. Section 607 is a better fit for this practice.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC068 LogID 677 609.1 Regional materials *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**609.1 Regional materials.** Regional materials are used for major ~~elements or~~ components of the ~~building~~ construction.
Reason:	A major element is not defined. The current definiton of a major componet is limited to the building itself. Is the intent for regional materials only to get points for use in the building or should points also be appropriate for major use on site (e.g. driveway construction)?
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The intent of this practice is to limit this credit to the building only, not to the construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC069 LogID 834 609.1 Regional materials *Final Formal Action:* Reject

Submitter:	**Craig Conner, Building Quality**
Public Comment:	Delete all sections concerning "regional materials". Including: ~~REGIONAL MATERIAL. Material that is originated, produced, growsnaturally, or occurs naturally within 500 miles (804.7 km) of the constructionsite if transported by truck or 1500 miles (2414 km) of the construction siteif transported for not less than 80% of the total transport distance by rail orwater.~~
Reason:	This is “free be” for concrete, since ready mix will always be very much closer than 500 miles, using local rocks and sand. Concrete always gets it. Will any use of local rock and sand get this? At 1500 miles I can take sand off the beach of very southern California and maybe northern Mexico and ship it to my city in inland Washington, almost Idaho, and call it indigenous. Ridiculous. Delete the whole item.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The intent is to encourage the use of regional products that provide environmental benefit. The fact that there are readily-available materials that provide this benefit does not support elimination of this credit. The practice is self-limiting due to economical factors. Also the intent of the public comment is outside of the scope of the proposed change.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC070 LogID 698 610.1 Life Cycle Analysis *Final Formal Action:* Reject

Submitter:	**Donn Thompson, Portland Cement Association**
Public Comment:	610.1 Whole-building ~~L~~life cycle analysis. A whole building life cycle analysis (LCA) ~~tool is used to select environmentally preferable products or assemblies, or an LCA~~ using a life cycle assessemnt process and data compliant with ISO 14044 or other equivalent standards is conducted on the entire building. ~~Points are awarded in accordance with 6010.1.1, 610.1.2(1), or 610.1.2(2). Only one method of analysis may be utilized.~~ A reference service life for the building ~~is to be~~ of 60 years shall be used. ~~for any life cycle analysis tool.~~ Results of the LCA are reported in the manual required in Section 1003.1(1) of this standard in terms of the environmental impacts listed in this practice. ~~and it states if operating energy was included in its preparation.610.1.1 Whole-building life cycle analysis. A whole-building LCA is performed using a life cycle assessment and data compliant with ISO 14044 or other recognized standards.~~ ~~609.1 610.1.2 Life cycle analysis for a product or assembly. A more An environmentally preferable product or assembly is selected for an application based upon the use of an Life Cycle Assessment (LCA) tool that incorporates data methods compliant with ISO 14044 or other recognized standards~~

	~~that compare the environmental impact of building materials,products or assemblies, or the whole building.~~ ~~(1) per product/system comparison~~ ~~(2) whole building LCA analysis~~ ~~(1) Two products with the same intended use are compared based on LCA and the product with a 15% improvement in fossil fuel consumption and global warming potential is used.~~ ~~(Points awarded per product/system comparison.)~~ ~~(2) An assembly is selected for the project that has environmental impact measures that are better than a functionally comparable assembly. The full life cycle, from resource extraction to demolition and disposal (including but not limited to on-site construction, maintenance and replacement, material and product embodied acquisition, and process and transportation energy), is assessed. The assemblies considered include all structural elements, insulation, and wall coverings:~~ ~~(a) exterior walls~~ ~~(b) roof/ceiling~~ ~~(c) interior walls or ceilings~~ ~~(d) intermediate floors~~ ~~Exception: Electrical and mechanical equipment and controls, plumbing products, fire detection and alarm systems, elevators, and conveying systems are not included in the assessment.~~ At a minimum, the following ~~The~~ environmental impacts shall be assessed: ~~measures to be considered are chosen from the following:~~ ~~(a) Fossil fuel consumption~~ (~~b~~ a) Global warming potential (~~c~~ b) Acidification potential (~~d~~ c) Eutrophication potential (~~e~~ d) Ozone depletion potential (~~f~~ e) Human health respiratory effects potential from particulates (f) Human toxicity (g) Photochemical smog (h)ecotoxicity of water (i) ecotoxicity of soil (j) bulk waste (k) hazardous waste (l) radioactive waste (m)land use ~~(Points are awarded based on the number of assemblies that improve upon environmental impact measures by 15%.)~~ ~~Table 610.1.2(2)~~ ~~Assembly LCA~~
Reason:	1) Delete individual product or assembly based comparative Life cycle assessment (LCA). LCA is intended to offer a comprehensive approach to evaluating and improving the environmental impacts of buildings. A project's environmental life cycle performance is dependent upon the whole project design with its individual components acting together as a system. A project's environmental life cycle performance should not be separated into the assessment of the individual components and assemblies. Conducting such a limited assessment will lead to conclusions and actions that are poorly informed. For example, looking at a comparison of wall assemblies, the differences in embodied energy, the energy associated with the extraction, manufacturing, and delivery of a product to the construction site, will likely be the primary consideration for selection. There would be no means of accurate assessment of in-place performance within the overall project. Only rough estimates of operational energy performance would be possible. A recent LCA study by MIT has demonstrated that the environmental impacts of the operational phase of a buildings life cycle is responsible for at least 88% of total emissions. Operational impacts can only be accurately assessed through a whole building LCA. Using component based LCA to superficially compare individual impacts is simplistic, inaccurate, and will often lead to decisions that result in greater environmental impacts over the full service life of the project. 2) Broaden the scope of the environmental impacts to be assessed: A complete cradle to grave LCA carried out according to the guidelines in "International Standard ISO 14044,

	Environmental Management – Life Cycle Assessment – Requirements and Guidelines" should not be limited to only a few impacts. At a minimum, the following life cycle impacts should be assessed: Human toxicity, Global warming potential, ozone depletion, acidification, eutrophication, photochemical smog, ecotoxicity of water, ecotoxicity of soil, bulk waste, hazardous waste, radioactive waste, human health respiratory effects potential from particulates and land use. The impact of fossil fuel consumption is addressed through analysis of global warming potential and need not be listed separately. 3) Suggest 15 points awarded for conducting a whole building life cycle analysis
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The consensus committee repeatedly approved the use of LCA for components/systems. The proponent does not provide sufficient evidence to make this change. The new proposed items have not been agreed upon by the LCA community. With regard to the study by MIT which asserts that as much as 88% of the energy consumption due to a product when viewed over its life may be building operating energy, another study by Canada Mortgage and Housing Corp. Equilibrium Project shows the number for all residential to be less than 50%. Both Studies fail to account for the fact that any product used in a building under this standard will be included in a building which must meet the current energy code, obviating the need for further consideration of the operational energy. The proposed inclusion of new items in the group now called environmental measures and the use of the term environmental impacts to describe that column is incorrect. The new items: Human toxicity, Photochemical smog, ecotoxicity of water, ecotoxicity of soil, bulk waste, hazardous waste, radioactive waste, and land use are not, of themselves, “environmental impacts”. Moreover, no metric exists for these items and none are currently included in TRACI and other recognized sources.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 33** **Disapprove: 2** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Donn Thompson:*** To be worthwhile and result in environmentally appropriate decision making, LCA should be holistic and cover the entire cradle to grave life cycle of all products used in the project. Limiting LCA to assemblies will often result in only a consideration of embodied energy generated during the pre-use and end of life phases. Numerous additional objective studies support the findings of MIT that use phase emissions far outweigh pre-use and end of life. For example, a study performed at Carnegie Mellon University (Ochoa, 2002) found that the use phase accounted for 93% of the total energy consumption. This data was further supported by Kahhat et al. (2009), who found that the use phase accounts for about 94% of total energy. Both of these studies were performed on a single-story, single-family house. Additional studies on other building types confirm that over 90% of overall emissions are generated during the use phase. Heinonen, J.; Junnila, S. Implications of urban structure on carbon consumption in metropolitan areas. *Environ. Res. Lett.* **2011**, *6*, 014018. Cole, R.J.; Kernan, P.C. Life-cycle energy use in office buildings. *Build. Environ.* **1996**, *31*, 307–317. Seo, S.; Hwang, Y. Estimation of CO2, Emissions in Life Cycle of Residential Buildings. *J. Constr. Eng. Manage.* **2001**, *127*, 414.

	Current energy code compliance represents minimum accepted level of construction and in no way speaks to the comparative environmental suitability of products. Many sections of the NGBS reflect practice that exceeds code minimums. Some products perform more effectively than others in exceeding energy code requirements and thus reducing the potential environmental impacts of a project. Allowing assemblies LCA in the NGBS will result in product choices based on superficial and incomplete information. TRACI does in fact include impact categories that address human toxicity (cancer and non-cancer), ecotoxicity, land use, and water use. The suggested additional impact categories are accepted and important to complete LCA analysis. LCA is a complex and detailed process. Arbitrary limitation of impact categories to make LCA "easier" rather than complete makes this entire section of the NGBS irrelevant to meaningful green building practice. ***Maribeth Rizzuto:*** Life Cycle Assesement as it is currently being applied in this standard for the construction of buildings is incomplete leading to inaccurate findings. This very costly excercise gives users a false sense of doing good for the environment when in fact it may be doing just the opposite. Recommend that the use of LCA be removed altogether or at the very least be restricted to include the full set of environmental impacts as noted in ISO 14044 and applied to the building as a whole..
Ballot Comment(s) for Abstain:	

PC071 LogID 750 610.1 Life Cycle Analysis *Final Formal Action:* Accept as Modified

Submitter:	**Matthew Dobson, Vinyl Siding Institute**
Public Comment:	**610.1.2 Life cycle analysis for a product or assembly.** ..... (1) Two products with the same intended use are compared based on LCA and the product with a 15% improvement in <u>overall average in the following areas</u>~~fossil fuel consumption and global warming potential~~ is used. <u>(a) Fossil fuel consumption</u> <u>(b) Global warming potential</u> <u>(c) Acidification potential</u> <u>(d) Eutrophication potential</u> <u>(e) Ozone depletion potential</u> <u>(f) Human health respiratory effects potential from particulates</u>
Reason:	610.1.2 (1) The focus on global warming impact and fossil fuels use (which are usually very closely related) is far too narrow a focus for an LCA credit. It also seems very strange that only those two impacts are considered here while acidification, eutrophication, ozone depletion, and human health respiratory effects are also considered in 609.2.2. It makes far more sense to be consistent across all these credits. For both 609.2.1 and 609.2.2 something such as the list below should be provided: •Global Warming Potential - measured in kg of CO2 equivalents •Acidification Potential – measured in H+ moles equivalents •Eutrophication Potential – measured in kg N equivalents •Ozone Depletion Potential – measured in kg CFC-11 equivalents • Smog Potential – measured in g of NOX equivalents
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **610.1 Life cycle analysis.** A life cycle analysis (LCA) tool is used to select environmentally preferable products or assemblies, or an LCA is conducted on the entire building. Points are awarded in accordance with 6~~0~~10.1.1~~,~~ or 610.1.2~~(1), or 610.1.2(2)~~. Only one method of analysis or tool may be

utilized. A reference service life for the building is to be 60 years for any life cycle analysis tool. Results of the LCA are reported in the manual required in Section 1003.1(1) of this standard in terms of the environmental impacts listed in this practice and it states if operating energy was included in its preparation. 15 points max

610.1.1 Whole-building life cycle analysis. A whole-building LCA is performed using a life cycle assessment and data compliant with ISO 14044 or other recognized standards. 15 points

610.1.2 Life cycle analysis for a product or assembly. An environmentally preferable product or assembly is selected for an application based upon the use of an LCA tool that incorporates data methods compliant with ISO 14044 or other recognized standards that compare the environmental impact of products or assemblies. 10 points max

(1) Two or more products with the same intended use are compared based on LCA and the product with at least a 15% average improvement is selected~~in fossil fuel consumption and global warming potential is used~~. Number of points awarded is based on the number of environmental impact measures compared. ~~2 point~~ Points per Table 610.1.2(1) 10 points Max
(Points awarded per product/system comparison.)

The environmental impact measures to be considered are chosen from the following:
(a) Fossil fuel consumption
(b) Global warming potential
(c) Acidification potential
(d) Eutrophication potential
(e) Ozone depletion potential

Table 610.1.2(1) Product LCA	
4 Impact Measures	**5 Impact Measures**
POINTS	
2	3

(2) An assembly is selected for the project that has environmental impact measures that are better than a functionally comparable assembly. The full life cycle, from resource extraction to demolition and disposal (including but not limited to on-site construction, maintenance and replacement, material and product embodied acquisition, and process and transportation energy), is assessed. The assemblies considered include all structural elements, insulation, and wall coverings:
Points per Table 610.1.2(2) 10 Points Max
(a) exterior walls
(b) roof/ceiling
(c) interior walls or ceilings
(d) intermediate floors

Exception: Electrical and mechanical equipment and controls, plumbing products, fire detection and alarm systems, elevators, and conveying systems are not included in the assessment.

The environmental impact measures to be considered are chosen from the following:
(a) Fossil fuel consumption
(b) Global warming potential
(c) Acidification potential
(d) Eutrophication potential
(e) Ozone depletion potential
~~(f) Human health respiratory effects potential from particulates~~
(Points are awarded based on the number of assemblies that improve upon environmental impact measures by an average of 15%.)

Table 610.1.2(2)
Assembly LCA

	4 Impact Measures	**6 Impact Measures**

		POINTS	
	2 Assemblies	**3**	**6**
	3 Assemblies	**4**	**8**
	4 Assemblies	**5**	**10**

Committee Reason:	Based on the public comment, the change is expanded to make the format of Section 610.1.2(1) for product analysis consistent with that of Section 610.1.2(2) for assembly analysis. The impact measure (f) on human health respiratory effects is deleted because BEES includes that measure only for cancer.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	*Staff Note: This comment by Janice Yglesias was withdrawn by the commenter on 6/22/2012.* **Section Number:** 610.1.2 Life Cycle Analysis **Full Name:** Janice Yglesias, American Architectural Manufacturers Association **Requested Action:** Revise as follows **Suggested Changes:** AAMA proposes the addition of a new Part 3 to Section 610.1.2/11.610.1.2/12.1(A).610.1.2 as follows: *Windows and doors rated as R or LC performance class per AAMA/WDMA/CSA 101/I.S.2/A440, and unit skylight and TDD products, that achieve at least a rating of two green leaves (>75% of total points available as currently proposed) in the AAMA Environmental Sustainability Rating Program for Fenestration Products will be considered as equivalent to the 4 Impact Measures classification in Table 610.1.2(2)/11.610.1.2(2) (no table in Chapter 12) and will be awarded points accordingly. Such products achieving a rating of one green leaf (>=55% of total points available as currently proposed) rating are likewise deemed equivalent to a 2 Impact Measure classification.* **Reason:** Public Comment also applies to Sections 11.610.1.2 and 12.1(A).610.1.2 Disagree with the change as fenestration products are currently not able to contribute to the requirements of Section 610.1.2/11.610.1.2/12.1(A).610.1.2 but they are a significant part of the exterior wall system and are a critical component in the building's overall energy and sustainability performance. An approved method for deriving LCA for fenestration products is not currently available. Though the fenestration industry is actively developing an appropriate LCA for these products, it will likely be some time before a consensus is reached and a program operator is registered. AAMA has employed its industry-accepted consensus process for standards development to develop a specification and related certified rating program addressing, to the extent currently practical, the environmental impact of fenestration products. The product performance requirements of the program have been approved through the consensus process but the program name and final threshold values for achieving the three rating levels have been proposed but not yet approved. Approval of these remaining items is expected in Summer/Fall 2012. The rating system includes an assessment of energy performance (U-factor and SHGC) and recycled/renewable content which relate to reduced fossil fuel consumption and global

	warming potential. Additionally, the rating system includes an assessment of the long-term durability of these products in several categories (i.e., structural performance, IG durability, and finishes) all of which support the longevity of the product and the reduction of field replacement or repair and their related environmental impacts. *(Staff Note: Substantiating documents attached at the end of this file)*
	Section Number: 610.1.2 Life Cycle Analysis **Full Name:** Dan Marvin, Florida Tile, Inc. **Requested Action:** Revise as follows **Suggested Changes:** f. Human toxicity g. Noise h. Human health Respiratory effects **Reason:** The list of 5 options given for a comparison LCA is very specific to 'cradle' conditions for the products. I would suggest adding human health categories that support a healthy indoor environment. Also, the points matrix for section 2 is incorrect since the 6th possible category has been removed. Either amend the table to '5 impact measures' or add more measures.

PC072 LogID 833 610.1 Life Cycle Analysis *Final Formal Action:* Reject

Submitter:	**Craig Conner, Building Quality**
Public Comment:	~~610.1.2 Life cycleanalysis for a product or assembly. An environmentally preferable product orassembly is selected for an application based upon the use of an Life CycleAssessment (LCA) tool that incorporates data methods compliant with ISO 14044or other recognized standards that compare the environmental impact of building materials,products orassemblies, or the whole building.~~ ~~10 Points Max~~ ~~15 Points Max~~ ~~(1) per product/system comparison 3~~ ~~(2) whole building LCA analysis 15~~ ~~(1) Two products with thesame intended use are compared based on LCA and the product with a 15%improvement in fossil fuel consumption and global warming potential is used. 210 Points Max (Points awarded perproduct/system comparison.)~~
Reason:	Delete this item until it is made more usable. LCA is poorly defined. 15% of the whole building's energy used? Very few things can do that. 15% of the energy use from the product? Can I save 15% of the heat that flows through the door knob? It is trivial. To compare two products I just copy the manufacturer's analysis of their impacts and call it completed? What is the base case, what is the minimum? A politically correct concept, but not a criteria tht is defined enough to used in the green standard. Energy savings is already covered in the energy chapter. Save considerable energy, as specified in the energy chapter, and the greenhouse gases will take car of themselves.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The practice is adequately defined for implementation. The consensus committee repeatedly supported LCA in the NGBS. Life cycle analysis based on ISO 14000,14044. LCA is the most scientifically-based approach for determining environmental impact of materials. Also ICC Evaluation Service is developing a more detailed process for performing LCAs of construction materials that will further facilitate implementation of this practice.

Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC073 LogID 730 611.1 Manufacturer's Environmental Management System Concepts

Final Formal Action: **Reject**

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	**610.1 Manufacturer's environmental management system concepts.** (a) Product manufacturer's operations and business practices include environmental management system concepts, and the production facility is ISO 14001 certified or equivalent. The aggregate value of building products from ISO 14001 certified or equivalent production facilities is 1 percent or more of the estimated total building materials cost. (1 point awarded per percent.) (b) The aggregate value of building products used in the building that is from UL 880 certified manufacturers is 1 percent or more of the estimated total building materials cost. (1 point awarded per percent)
Reason:	The proposed standard is aligned with the overall tenants of the existing 610.1. The standard touches on the following areas of sustainability for a product manufacturer: •Sustainability Governance: including sustainability strategic planning, board oversight, internal stakeholder engagement, ethics policies, and creating the infrastructure and fostering the behaviors that create a culture of sustainability •Environment: including product stewardship, sustainable resource use, environmental management systems, energy efficiency and carbon management, materials optimization, facilities and land use, habitat restoration, and waste prevention •Work Force: including professional development, workplace integrity, employee satisfaction and retention, workplace safety, and employee health and well-being •Customers and Suppliers: including fair marketing practices, product safety, customer support and complaint resolution, and sustainable supply chain management, monitoring and improvement •Community Engagement and Human Rights: including community impact assessment, community investment, and human rights issues Each domain includes prerequisites, core indicators, and leadership indicators, for a total of 1,003 possible points across all domains. The standard was put out for public comment and changed due to that public comment. It can be found here: www.comm-2000.com
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Some of the criteria (e.g., human rights) included in the UL standard proposed in this public comment are beyond the scope of the NGBS. The term 'value' used in the public comment is undefined.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC074 LogID 724 611.2 Sustainable Products *Final Formal Action:* Withdrawn

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	**611.2 Sustainable Products.** One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Certification third-party agency is ISO Guide 65 accredited. **~~4~~ 10 Points Max** **(1)** 50% or more of carpet installed (by square feet) is third-party certified to NSF/ANSI 140. **~~15~~** **(2)** 50% or more of resilient flooring installed (by square feet) is third-party certified to NSF/ANSI 332. **~~15~~** **(3)** 50% or more of the insulation installed (by square feet) is third-party certified to EcoLogo CCD-016. **~~15~~** **(4)** 50% or more of interior wall coverings installed (by square feet) is third-party certified to NSF/ANSI 342 **~~15~~**
Reason:	The standards named in this section focus on the sustainability of a product the same way that this document looks at the sustainability of a building – in total. To give individual attributes, such as biobased, recycled content, or certified wood more than triple the amount of points (at the minimum) is misunderstanding the focus of sustainability in building. Should sustainable buildings not also be built with the most sustainable products? Looking at the sustainable aspects of a product, in total, as these standards do, is a much better way of ensuring sustainable products are being used to build these homes, than attributes done on a case by case basis.
Committee Action from Meeting:	**Withdrawn**
Modification of Public Comment:	
Committee Reason:	Withdrawn by proponent on Conference call of Task Group 3 on January 17, 2012.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC075 LogID 725 611.2 Sustainable Products *Final Formal Action:* Accept as Modified

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	**611.2 Sustainable Products.** One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Certification third-party agency is ISO Guide 65 accredited. **4 Points Max** **(1)** 50% or more of carpet installed (by square feet) is third-party certified to NSF/ANSI 140. **1** **(2)** 50% or more of resilient flooring installed (by square feet) is third-party certified to NSF/ANSI 332. **1** **(3)** 50% or more of the insulation installed (by square feet) is third-party certified to EcoLogo CCD-016. **1** **(4)** 50% or more of interior wall coverings installed (by square feet) is third-party certified to NSF/ANSI 342 **1** **(5)** 50% or more of the gypsum board installed (by square feet) is third-party certified to ULE ISR 100 **1** **(6)** 50% or more of the door leafs installed (by number of door leafs) is third-party certified to ULE ISR 102 **1**
Reason:	Single attribute traits allow us to see valuable snapshots of a products impact on certain areas of the environment and they bring value to a building standard such as this one, but many product manufacturers and sustainability purchasers/experts are looking to multi-attribute standards as a way to show that a product, in total, addresses the triple bottom line of sustainability. Referencing these standards and awarding points would allow the homes built to this standard to show that some of the products chosen to build the building have been looked at in terms of their overall sustainable impact. As the document is written now, we only have standards for carpet, flooring, insulation, and wall coverings. I am proposing that we include references for standards that are being utilized and certified to in the marketplace for gypsum/wall board and door leafs. This would allow us to give more options to home builders/developers when trying to build these sustainable homes with more sustainable products.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **611.2 Sustainable Products.** One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Certification third-party agency is ISO Guide 65 accredited. **4 Points Max** **(1)** 50% or more of carpet installed (by square feet) is third-party certified to NSF/ANSI 140. **1** **(2)** 50% or more of resilient flooring installed (by square feet) is third-party certified to NSF/ANSI 332. **1** **(3)** 50% or more of the insulation installed (by square feet) is third-party certified to EcoLogo CCD-016. **1** **(4)** 50% or more of interior wall coverings installed (by square feet) is third-party certified to NSF/ANSI 342 **1** **(5)** 50% or more of the gypsum board installed (by square feet) is third-party certified to ULE ISR 100 **1** **(6)** 50% or more of the door leafs installed (by number of door leafs) is third-party certified to ULE ISR 102 **1** **(7)** 50% or more of the tile installed (by square feet) is third-party certified to ANSI A138.1 Specifications for Sustainable Ceramic Tiles, Glass Tiles and Tile Installation Materials. **1**
Committee Reason:	The modification adds item (7) to provide another compliance choice for the practice.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC076 LogID 805 611.2 Sustainable Products *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	**611.2 Sustainable Products.** One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Certification third-party agency is ISO Guide 65 accredited. **4 Points Max** **(1)** 50% or more of carpet installed (by square feet) is third-party certified to NSF/ANSI 140. **1** **(2)** 50% or more of resilient flooring installed (by square feet) is third-party certified to NSF/ANSI 332. **1** **(3)** 50% or more of the insulation installed (by square feet) is third-party certified ~~to EcoLogo CCD-016~~. **1** **(4)** 50% or more of interior wall coverings installed (by square feet) is third-party certified to NSF/ANSI 342 **1**
Reason:	I believe EcoLogo would be considered a proprietary program. We should not be picking winners and losers.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	At this time, this is the only standard available for insulation. This is an optional item in the Standard. Also, EcoLogo removed any exclusionary language from its program.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC077 LogID 950 611.3 Universal Design Elements *Final Formal Action:* Reject

Submitter:	**Curtis L Biggar, Biggar Dev Ltd**
Public Comment:	
Reason:	I WOULD RECOMMEND THAT IN ADDITION TO THE RECOGNITION GIVEN TO AGING-IN - PLACE A POINT SHOULD BE GIVEN FOR EACH EXTERIOR ACCESSIBLE EXTERIOR THRESHOLD; AND EACH ACCESSIBLE ROOM. THAT WOULD AMOUNT TO LESS THAN 10 POINTS & ENSURE LONGEVITY; SUSTAINABILITY & HIGH FUTURE RESALE WITHOUT REMODELING. IT WOULD ALSO REDUCE THE HIGH COST OF PREMATURELY LEAVING ONES HOME FOR COSTLY PRIVATE OR GOVERNMENT CARE.
Committee Action from Meeting:	**Reject**

Modification of Public Comment:	
Committee Reason:	The current language adequately allocates points for no-step entrances under Item (1).
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC078 LogID 809 611.4 Food waste disposers *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	~~**611.4 Food waste disposers**. A minimum of one food waste disposer is installed at the primary kitchen sink. (1 point)~~
Reason:	Food waste disposers do are not the clear green option for food waste disposal. Although they can sometimes reduce landfill waste, they add Biological Oxygen Demand to sewer systems, requiring additional treatment.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The committee repeatedly supported retaining this practice for the reasons previously documented the Public Proposals Report (October 7, 2011, available at www.nahbrc.com/ngbs) under Item P236. No new information is provided. The practice is awarded only one point.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC079 LogID 832 611.4 Food waste disposers *Final Formal Action:* Reject

Submitter:	**Craig Conner, Building Quality**
Public Comment:	~~611.4 Food waste disposers. A minimum of one food waste disposer isinstalled at the primary kitchensink. 1~~

Reason:	This is green washing. A garbage disposal is not as good as composting. I thought the committee had voted this out of the document.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The committee repeatedly supported retaining this practice for the reasons previously documented the Public Proposals Report (October 7, 2011, available at www.nahbrc.com/ngbs) under Item P236. No new information is provided. The practice is awarded only one point. The previous action was to move the practice from Chapter 8 to Chapter 6, not to remove it from the Standard. Also, composting is not always available as an option, e.g., it is not allowed by some local jurisdictions in urban developments.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC080 LogID 712 701.1 Mandatory Requirements *Final Formal Action:* Reject

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Requiring floor insulation over unconditioned crawl space would actually be counter-productive in a passively cooled home. A good post and pier design actually encourages air infiltration from the cooler underside of the home into the living space for cooling purposes.
Reason:	ACCA Manual J is not equipped to take into account the cooling effects of breezes through the structure in calculating cooling loads.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	ACCA Manual J is a requirement in the 2009 IRC and the infiltration rate can be adjusted in Manual J to model high infiltration homes. Insulation requirements are based on the builidng code and can also be adjusted in Manual J.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC081 LogID 710 701.1.1 Minimum Performance Path Requirements

Final Formal Action: **Reject**

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Performance path is difficult to use with passive cooled homes.
Reason:	These requirements are geared to everywhere else, except Hawaii, where all new construction must have some type of mechanical system--either heating/cooling, or both. The Standard as it is now, actually encourages putting in a mechanical system where none is needed because more points can be gained. Many of the mandatory air sealing practices are less needed for a home without mechanical cooling. Here in Hawaii, most of our homes are passively cooled.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	These provisons are consistent with 2009 IECC for that climate zone. 2009 IECC is the new baseline for the NGBS.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC082 LogID 711 701.1.2 Minimum Prescriptive Path Requirements

Final Formal Action: **Reject**

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Prescriptive path has so many points dedicated to mechanical systems, that it is hard to find points to meet minimums for passively cooled homes.
Reason:	These requirements are geared to everywhere else, except Hawaii, where all new construction must have some type of mechanical system--either heating/cooling, or both. The Standard as it is now, actually encourages putting in a mechanical system where none is needed because more points can be gained. Many of the mandatory air sealing practices are less needed for a home without mechanical cooling. Here in Hawaii, most of our homes are passively cooled.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	NGBS baseline provisions are consistent with the 2009 IECC. As an alternative to the prescriptive path, the NGBS performance path provides added flexibility for various methods of increasing energy efficiency in specific climate conditions. The new performance path methodology is whole-house based and includes all uses of energy in a dwelling.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0**

	Abstain: 0 **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC083 LogID 678 701.1.3 Alternative Bronze Level Compliance

Final Formal Action: **Accept as Modified**

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**701.1.3 Alternative bronze level compliance.** As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Qualified Home or equivalent demonstrates compliance with the 2012 IECC or Chapter 11 of the 2012 IRC achieves the bronze level for Chapter 7 but may not achieve a higher level without complying with either 702 or 703. When this path is used no points may be awarded for sections 702 or 703. This path provides automatic compliance with all the mandatory requirements of chapter 7.
Reason:	The standard should clarify that if the alternate path is used what limitations and benefits are involved.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **701.1.3 Alternative bronze level compliance.** As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Qualified Home or demonstrates compliance with the 2012 IECC or Chapter 11 of the 2012 IRC is deemed to meet all mandatory practices of Chapter 7 and achieves the bronze level for Chapter 7. The buildings achieving compliance under Section 701.1.3 are not eligible for achieving a rating level above bronze.
Committee Reason:	In the existing version of the Standard, you qualified for Bronze, updating this for the next version to include Energy Star Version 3 as well as the 2012 IECC. For either of these alternative bronze compliance paths, it is required to meet the mandatory items as well.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC084 LogID 789 701.1.3 Alternative Bronze Level Compliance

Final Formal Action: **Reject**

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**701.1.3 Alternative bronze level compliance**. As an alternative, any building thatqualifies as an Energy Star Version 3.0 Qualified Home ~~or equivalent demonstratescompliance with the 2012 IECC or~~

	~~Chapter 11 of the 2012 IRC~~achieves the bronze level for Chapter 7.
Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC is the baseline for the Standard and the energy chapter requires savings of 15% above the baseline on a whole-house basis for the Bronze rating level. Because 2012 IECC is about 15% better than 2009 IECC, this is an appropriate method of achieving the Bronze rating level.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	***Randall Melvin:*** The 2009 IECC is an appropriate baseline reference for the energy chapter of ICC 700 rather than the 2012 IECC as much of the county may reject or delay adoption ofthe 2012 IECC. ICC 700 is a national standard whose applicability needs to be widespread.
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC085 LogID 709 701.4 Mandatory Practices *Final Formal Action:* Reject

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Mandatory requirements specify both HVAC system checklists. What about passively cooled homes with no mechanical cooling?
Reason:	Homes in Hawaii are mostly passively cooled by our tradewinds with no mechanical cooling.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	These mandatory practices are based on 2009 IECC which is the baseline for this Standard. ACCA Manual J, D, & S are required per the 2009 IECC, however, a cooling system is not required.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC086 LogID 735 701.4.1.1 HVAC system sizing *Final Formal Action:* Reject

Submitter:	**Howard Fortunato, LandmarkJCM**
Public Comment:	see above
Reason:	Making mandatory for ACCA Manual S for selecting equipment will be problematic with hvac contractors that have never heard of Manual S; and it removes point opportunity for builders that presently use it and receive points in 704.5.1.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Manual S is required as part of the 2009 IECC and should be followed as part of this Standard. The 2009 IECC has been set as the baseline for this Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	***Randall Melvin:*** It should be made clear that in using the standard section such as thin one which reference using ACCA Manual J and or S that the designer maintains flexibility to use outdoor design temperatures that exceed the 1% time thresholds for cooling and 99% levels for for heating. Temperature data in ACCA is currently based on questionable 1997 data so is critically important this flexibility be understood.
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC087 LogID 800 701.4.1.1 HVAC system sizing *Final Formal Action:* Reject

Submitter:	**Shari Hendley, J.S. Hovnanian & Sons**
Public Comment:	~~Equipment is selected using ACCA Manual S or equivalent.~~
Reason:	"Equipment is selected using ACCA Manual S or equivalent" - Many hvac contractors do not use this program for selecting equipment. Making this mandatory not only decreases point possibilities (from previous item 704.5.1) for builders, but may require them to switch from otherwise high quality and reliable hvac contractors.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Manual S is required as part of the 2009 IECC and should be followed as part of this Standard. The 2009 IECC has been set as the baseline for this Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC088 LogID 736 701.4.2.3 Duct system sizing *Final Formal Action:* Reject

Submitter:	**Howard Fortunato, LandmarkJCM**
Public Comment:	see above
Reason:	Making mandatory for ACCA Manual D for size and design of duct system will be problematic with hvac contractors that have never heard of Manual D; and it removes point opportunity for builders that presently use it and receive points in 704.4.1.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Manual D is required as part of the 2009 IECC which has been set as the baseline for this Standard. ACCA training is available to HVAC contractors to learn how to size ductwork per Manual D.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC089 LogID 801 701.4.2.3 Duct system sizing *Final Formal Action:* Reject

Submitter:	**Shari Hendley, J.S. Hovnanian & Sons**
Public Comment:	~~**Mandatory**~~ **5 points**
Reason:	Many hvac contractors do not use Manual D for sizing duct systems. Making this mandatory not only decreases point possibilities (5 points from previous item 704.4.1) for builders, but may require them to switch from otherwise high quality and reliable hvac contractors
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Manual D is required as part of the 2009 IECC which has been set as the baseline for this Standard. ACCA training is available to HVAC contractors to learn how to size ductwork per Manual D.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC090 LogID 657 701.4.3.2 Air sealing and insulation *Final Formal Action:* **Accept as Modified**

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	**701.4.3.2 ~~Air sealing and insulation~~ Insulation and Air Sealing.** Building envelope insulation must be installed to meet Grade 2 installation criteria as defined in 703.1.2.3. The compliance of the building envelope air tightness and ~~insulation installation~~ is demonstrated in accordance with Section 701.4.3.2(1) or 701.4.3.2(2). **(1) Testing option.** Building envelope tightness ~~and insulation installation~~ is considered acceptable when tested air leakage is less than seven air changes per hour (ACH)when tested with a blower door at a pressure of 33.5 psf (50 Pa). Testing is conducted after ~~rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances~~ the requirements of 701.4.3.1 Building Thermal Envelope have been met. (keep a - g the same under this section) **(2) Visual inspection option.** Building envelope tightness ~~and insulation installation are~~ is considered acceptable when the items listed in Table 701.4.3.2(2) applicable to the method of construction, are field verified.
Reason:	Delete "and insulation" from all language in 701.4.3.2. Based on what is currently written, a Grade 3 insulation job could be installed and still meet all the criteria. Recommend separating air sealing and insulation installation into separate mandatory items. Recommend Grade 2 insulation installation become mandatory, but 3rd party inspection is not mandatory (keep points in 703.1.2 for having it graded by a 3rd party.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **701.4.3.2 Air sealing and insulation.** Grade 3 insulation installation is not permitted. The compliance of the building envelope air tightness and insulation installation is demonstrated in accordance with Section 701.4.3.2(1) or 701.4.3.2(2).
Committee Reason:	Section has been re-written to restrict Grade 3 insulation from being used. In addition, the format of this section is modeled after the 2009 IECC, which is the baseline for the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC091 LogID 777 701.4.3.2 Air sealing and insulation *Final Formal Action:* Reject

Submitter:	**Amanda Evans, Santa Fe**
Public Comment:	Remove ~~seven~~ and add five.
Reason:	Change seven AHC 50 to five ACH 50 or lower. A green building standard should be above and beyond code and the 2012 IECC code requires 3ACH50 in some climate zones. Seven is just too leaky these days.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC sets 7 ACH 50 as the minimum and the 2009 IECC is the baseline set for this Standard. The minimum level of performance under the NGBS is 15 percent above the 2009 IECC.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC092 LogID 802 701.4.3.2 Air sealing and insulation *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**701.4.3.2 Air sealingand insulation**: The compliance of the building envelope air tightness andinsulation installation is demonstrated in accordance with Section 701.4.3.2~~(1) or 701.4.3.2 (2)~~. ~~(2) Visual inspection option. Building envelopetightness and insulation installation are considered acceptable when the items listed in Table 701.4.3.2(2) applicable to the method of construction, are fieldverified.~~ ~~Table 701.4.3.2(2) Air Barrier and InsulationInspection Component Criteria~~

~~COMPONENT~~	~~CRITERIA~~
~~Air barrier and thermal barrier~~	~~Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier. Breaks or joints in the air barrier are filled or repaired. Air-permeable insulation is not used as a sealing material.~~ ~~Air-permeable insulation is inside of an air barrier.~~
~~Ceiling/attic~~	~~Air barrier in any dropped ceiling/soffit is substantially aligned with insulation and anygaps are sealed.~~ ~~Attic access (except unvented attic), knee wall door, or drop~~

	~~down stair is sealed.~~	
	~~Wall~~	~~Corners and headers are insulated. Junction of foundation and sill plate is sealed~~
	~~Windows and door~~	~~Space between window/door jambs and framing is sealed.~~
	~~Rim joists~~	~~Rim joists are insulated and include an air barrier.~~
	~~Floors (including abovegarage and cantilevered floors)~~	~~Insulation is installed to maintain permanent contact with underside of subfloor decking. Air barrier is installed at any exposed edge of insulation.~~
	~~Crawl space walls~~	~~Insulation is permanently attached to walls. Exposed earth in unvented crawl spaces is covered with Class I vapor retarder with overlapping joints taped.~~
	~~Shafts, penetrations~~	~~Duct shafts, utility penetrations, knee walls and flue shafts opening to exterior or unconditioned space are sealed~~
	~~Narrow cavities~~	~~Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation.~~
	~~Garage separation~~	~~Air sealing is provided between the garage and conditioned spaces~~
	~~Recessed lighting~~	~~Recessed light fixtures are air tight, IC rated, and sealed to drywall. Exception—fixtures in conditioned space~~
	~~Plumbing and wiring~~	~~Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.~~
	~~Shower/tub on exterior wall~~	~~Showers and tubs on exterior walls have insulation and an air barrier separating them from the exterior wall.~~
	~~Electrical/phone box on exterior walls~~	~~Air barrier extends behind boxes or air sealed-type boxes areinstalled~~
	~~Common wall~~	~~Air barrier is installed in common wall between dwelling units~~
	~~HVAC register boots~~	~~HVAC register boots that penetrate building envelope are sealed to subfloor or drywall~~
	~~Fireplace~~	~~Fireplace walls include an air barrier~~

Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC is the baseline code for the NGBS. 2009 IECC has the visual inspection option available to meet the air sealing requirement and should be an option for the NGBS as a baseline mandatory item.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

PC093 LogID 803 701.4.3.2 Air sealing and insulation *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**~~(1)~~ Testing ~~option~~.** Building envelope tightness and insulation installation is considered acceptable when tested air leakage is less than three~~seven~~ air changes per hour (ACH) when tested with a blower door at a pressure of 33.5 psf (50 Pa). Testing is conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances.
Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC requires 7 ACH50. 2009 IECC is the baseline code for this version of Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC094 LogID 659 701.4.4 High-efficacy lighting *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	**701.4.4 High-efficacy lighting.** A minimum of 50 percent of the total hard-wired lighting fixtures, or the bulbs in those fixtures, qualify as high efficacy or equivalent. ICC defines high efficacy as: 60 lumens/W for lamps over 40W; 50 lumens/W for lamps over 15W to 40W; 40 lumens/W for lamps 15W or less. **Lamp** **Efficiency** =15W 40 lumens/W >15W-40W 50 lumens/W >40W 60 lumens/W High-Efficacy Lamps
Reason:	Need more definition for reference of high-efficacy lighting. Recommend including language from the ICC for reference on lamps that qualify, otherwise builders will have no idea what you mean in areas that have not adopted the 2009 IECC or where it is not enforced well.
Committee Action from Meeting:	**Reject**

Modification of Public Comment:	
Committee Reason:	High Efficacy lighting is defined in Section 2 of the Draft Standard using the 2009 IECC definition.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC095 LogID 804 701.4.4 High-efficacy lighting *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**701.4.4 High-efficacy lighting**. A minimum of 7550percent of the total hard-wired lighting fixtures, or the bulbs in thosefixtures, qualify as high efficacy or equivalent.
Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC is the baseline code for this standard which sets the minimum at 50%.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	***Anthony Floyd:*** High efficacy lighting must at least meet the current model energy codes.
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC096 LogID 792 702.1 Point Allocation (Performance Path) *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**702.2.1 ICC IECCanalysis**. Energy efficiencyfeatures are implemented to achieve energy cost performance that meets the 2012 ICCIECC. A documented analysis usingsoftware in accordance with 2012 ICCIECC, Section R405, or 2012 ICC IECC Section C407.2 ~~506.2~~ through C407.5 ~~506.5~~, applied as definedin the 2012 ICC IECC, is required.

Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC has been set as the baseline for the Standard. The minimum level of compliance for energy efficiency is set at 15% above the 2009 IECC on a whole-house basis.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC097 LogID 793 702.2 Energy Cost Performance Levels

Final Formal Action: **Reject**

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**702.2.2 Energy cost performanceanalysis**. Savings levels above the 2012 ICCIECC are determined through an analysis that includes improvements in buildingenvelope, air infiltration, heating system efficiencies, cooling systemefficiencies, duct sealing, water heating system efficiencies, and lighting. ~~and appliances~~.
Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC has been set as the baseline for the Standard. The minimum level of compliance for energy efficiency is set at 15% above the 2009 IECC on a whole-house basis. Appliances are part of the whole-house energy use. In the public comment, points for appliances would only be awarded in the prescriptive path. Points are currently awarded for appliances in either the performance or prescriptive path. This allows for an equivalent analysis in the performance method.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s)	

for Abstain:	

PC098 LogID 795 702.2 Energy Cost Performance Levels *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**702.2.2 Energy cost performance analysis**. Savings levels above the ICC IECC are determined through an analysis that includesimprovements in building envelope, air infiltration, heating systemefficiencies, cooling system efficiencies, duct sealing, water heating systemefficiencies, and lighting, ~~and appliances~~
Reason:	Appliances are not included in the referenced analysis and should be left out of this method as there is no standard reference design baseline. Furthermore, there are point awards elsewhere in the document for high efficiency appliances.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The rating levels in the new Standard are established based on whole-house performance including appliances. In the public comment, points for appliances would only be awarded in the prescriptive path. Points are currently awarded for appliances in either the performance or prescriptive path. This allows for an equivalent analysis in the performance method.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC099 LogID 836 702.2 Energy Cost Performance Levels *Final Formal Action:* Accept

Submitter:	**Craig Conner, Building Quality**
Public Comment:	**702.2.1 ICC IECC analysis.** Energy efficiency features are implemented toachieve energy cost performance that meets the ~~ICC~~ IECC. A documented analysisusing software in accordance with ~~ICC~~ IECC, Section 405, or ~~ICC~~ IECC Section506.2 through 506.5, applied as defined in the ~~ICC~~ IECC, is required.
Reason:	Comment: All occurrences of “ICC IECC” should be just “IECC”.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	Agree with this editorial item.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC100 LogID 602 703.1.1 UA improvement (building envelope)

Final Formal Action: **Accept**

Submitter:	**Nils Petermann, Alliance to Save Energy**
Public Comment:	Table 703.1.1: bottom row of the "Climate Zone" column: 7 and ~~9~~8
Reason:	Table 703.1.1: in the "Climate Zone" column, the bottom row states "7 and 9". This is a typo, as no climate zone 9 exists in the IECC.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	This was a typo. Agree with the correction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC101 LogID 819 703.1.1 UA improvement (building envelope)

Final Formal Action: **Reject**

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**703.1.1 UAimprovement.** ~~Where the total building thermal envelope UA is less than requiredby ICC IECC, Section 402.1.4, the total building thermalenvelope UA is in accordance with Table 703.1.1.~~ The total building thermal envelope UA isin accordance with Table 703.1.2 and is less than or equal to the total UA resulting from the U-factors providedin Table 703.1.1. Where insulation is used to achieve the~~se percentages~~ UAimprovements, a third-party grading of the installation as achieving Grade 1 isrequired.~~ A documented analysis isperformed using RESCheck version 4.0.1 or later, or equivalent, based on acomparison to the ICC IECC, IRC, or IBC~~. Total UA is documentedusing RESCheck or equivalent report and supplied to verify the baseline and theUA improvement. **Table 703.1.1: Equivalent U-Factors**

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor	Floor U-Factor	Basement Wall U-	Crawl Space Wall U-

							Factor	Factor
	1	0.50 ~~1.2~~	.75	.035	.082	.197	.064	.36	.477
	2	0.40 ~~.65~~	0.65 ~~.75~~	0.030 ~~.035~~	.082	.165	.064	.36	.477
	3	0.35 ~~.5~~	0.55 ~~.65~~	0.030 ~~.035~~	0.057 ~~.082~~	0.098 ~~.141~~	.047	0.091 ~~.91~~	.136
	4 except Marine	.35	0.55 ~~.6~~	0.026 ~~.03~~	0.057 ~~.082~~	0.098 ~~.141~~	.047	.059	.065
	5 and Marine 4	0.32 ~~.35~~	0.55 ~~.6~~	0.026 ~~.03~~	.057	.082	.033	.059	0.055 ~~.065~~
	6	0.32 ~~.35~~	0.55 ~~.6~~	.026	0.048 ~~.057~~	.06	.033	.05	0.055 ~~.065~~
	7 and 8	0.32 ~~.35~~	0.55 ~~.6~~	.026	0.048 ~~.057~~	.057	.028	.05	0.055 ~~.065~~

Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC has been set as the baseline for the Standard. The U-factors listed are from the 2009 IECC.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC102 LogID 679 703.1.2 Insulation installation *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**701.4.3.3 Insulation installation.** The insulation installation is graded by a third party and is in accordance with Sections 703.1.2.1, 703.1.2.2, and/or 703.1.2.3, and/or 703.1.2.4, as applicable. Grade 3 insulation installation is not permitted. Grade 2 installation is permitted only for bronze level buildings. Mandatory
Reason:	703.1.2 should be moved to the 701 mandatory section. It seems that the committee intended to require at least grade 2 installation in order to be certified. But as written the practice is optional for the prescriptive path. There is no way to tell if the insulation is grade two or 3 unless it becomes a mandatory practice. Since installation quality impacts the home's performance regardless of the prescriptive or performance path, it is reasonable to require this inspection for both paths. (Note: if this becomes 701.4.3.3 then the remaining 701.4.3 practices need to be renumbered.)
Committee Action from Meeting:	**Reject**

Modification of Public Comment:	
Committee Reason:	Rejected in favor of PC090 that added “Grade 3 insulation installation is not permitted” to Section 701.4.3.2.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC103 LogID 807 703.1.2 Insulation installation *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	Delete section 703.1.2 in it's entirety
Reason:	Green standards are universally understood and expected to be above code programs. The building code does not allow for substandard insulation installation. Level 1 should be mandatory. No options than less than proper insulation installation should be allowed.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Grade 2 insulation installation has been set the minimum within this Standard. Grade 2 is allowed only for the Bronze rating level. Grade 1 is required for the higher rating levels.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC104 LogID 838 703.1.2 Insulation installation *Final Formal Action:* Accept

Submitter:	**Craig Conner, Building Quality**
Public Comment:	**Table 703.1.2** **Insulation Installation Grades** **Grade** | **POINTS** 1 | **15**

	2 | ~~100~~ 100 ~~3~~ | ~~0~~
Reason:	Remove Grade 3 insulation (it is not allowed) and delete points (zero points) for Grade 2 insulaiton. Grade 2 insulation is not point worthy in a green program.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	*Staff note: This section was further modified by the consensus committee as part of the discussion on points for the entire chapter as shown in Draft 2 and PC225.*
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC105 LogID 680 703.1.4 Radiant Barrier *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**703.1.4** A radiant barrier with an emittance of 0.05 or less is used in the attic. The product is tested in accordance with ASTM C-1371-98 or ASTM E408-71 (2002) and is installed in accordance with the manufacturer's installation specifications.
Reason:	Limit the use of radiant barrier to attic applications where it is most beneficial.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC106 LogID 808 703.1.4 Radiant Barrier *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**703.1.4.** A radiant barrier with an emittance of 0.05or less is used. The product is tested in accordance with ASTM C-1371-98 orASTM E408-71 (2002), ~~and~~ is installed inaccordance with the manufacturer's installation specifications, and is permanently protected against the accumulation of dust or risk of corrosion for the life of the products.
Reason:	Radiant Barriers only work as long as their lowE surface is protected.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	It is difficult to enforce "permanently protected against the accumulation of dust or risk of corrosion" without additional guidelines. Following manufacturer's installation specifications should be sufficient to protect the radiant barrier.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC107 LogID TG5-1 703.1.4 Radiant Barrier *Final Formal Action:* Accept

Submitter:	**Michael Hodgson (on behalf of Task Group 5), Consol**
Public Comment:	**703.1.4** A radiant barrier with an emittance of 0.05 or less is used. The product is tested in accordance with ASTM C-1371-98 ~~or ASTM E408-71 (2002)~~ and is installed in accordance with the manufacturer's installation specifications.
Reason:	ASTM E408 is out of date. ASTM C1371 is the current radiant barrier standard.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC108 LogID 662 703.1.5 Building envelope leakage *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	**703.1.5 Building envelope leakage** **. The maximum leakage rate is <u>tested by a 3rd party to be found to be</u> in accordance with the following: ....**
Reason:	Add "3rd party" to language. These test results should be provided by a 3rd party with so many points available for specific envelope leakage test results. Item 704.5.2.1 could then be deleted to avoid double dipping with points.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This is already included in Section 704.5.2.1 and available to either the performance or the prescriptive path. Putting this language in 703, the points would be awarded for the prescriptive path only. However, this practice should apply to both prescriptive and performance paths. Therefore, it is in the correct place in Section 704.5.2.1.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC109 LogID 681 703.1.5 Building envelope leakage *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**703.1.5 Building envelope leakage**. <u>Whole building ventilation is provided in accordance with section 902.2 and the</u> ~~The~~ maximum leakage rate is in accordance with the following: **(a)** 5 ACH50 **(b)** 4 ACH50 **(c)** 3 ACH50 **(d)** 2 ACH50 **(e)** 1 ACH50
Reason:	The prerequisite for appropriate ventilation for very tight buildings apparently was dropped during the revision. Proper ventilation is appropriate for tight houses.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **703.1.5 Building envelope leakage.** The maximum leakage rate is in accordance with the following. (a) 5 ACH50 (b) 4 ACH50

	(c) 3 ACH50 (d) 2 ACH50 (e) 1 ACH50 <u>Whole building ventilation is provided in accordance with section 902.2.1 if building envelope leakage rate is 5 ACH50 or less.</u>
Committee Reason:	Accept the concept that whole-building ventilation should be provided. For clarification, the sentence is moved to the end of this practice and a qualifier for 5ACH50 or less is added.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC110 LogID 812 703.1.5 Building envelope leakage *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**703.1.5 Building envelope leakage.** The maximum leakage rate is in accordance with the following: ~~(a) 5 ACH50 3~~ ~~(b) 4 ACH50 6~~ (c) 3 ACH50 ~~9~~<u>0</u> (d) 2 ACH50 12 (e) 1 ACH50 15
Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable. No points should be awarded for meeting the minimum code.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The air tightness provisions in the Draft Standard are based on the 2009 IECC not the 2012 IECC. The public comment is aligned with the 2012 IECC.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC111 LogID 765 703.1.6.1 Fenestration Specifications *Final Formal Action:* Reject

Submitter: Eric Lacey, RECA

Public Comment:

701.4.4.1 NFRC-certified U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis are in accordance with Table 701.4.4.1. Decorative fenestration elements with a maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

[Option 1: 2012 IECC]

Table 701.4.4.1
Fenestration Specifications

Climate Zones	U-Factor	SHGC	
	Windows and Exterior Doors (maximum certified ratings)		
1	0.50	0.25	Mandatory
2	0.40	0.25	
3	0.35	0.25	
4	0.35	0.40	
5 to 8	0.32	Any	
	Skylights and TDDs		
1	0.75	0.25	
2	0.65	0.25	
3	0.55	0.25	
4	0.55	0.40	
5 to 8	0.55	Any	

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

[Option 2: 2009 IECC]

Table 701.4.4.1
Fenestration Specifications

Climate Zones	U-Factor	SHGC	
	Windows and Exterior Doors (maximum certified ratings)		
1	1.20	0.30	Mandatory
2	0.65	0.30	
3	0.50	0.30	
4 to 8	0.35	Any	
	Skylights and TDDs		
1	0.75	0.30	
2	0.75	0.30	
3	0.65	0.30	
4 to 8	0.55	Any	

Reason: The 2008 edition of the National Green Building Standard recognized the critical role of efficient windows, doors, and skylights in sustainable building practice. The 2008 NGBS required windows in any green-certified home to meet or exceed the Energy Star requirements then effective (version 4.0). For some reason, the latest Public Comment Draft has removed fenestration from the list of mandatory provisions. We believe that efficient windows, doors, and skylights are crucial elements in

	any sustainable project, and propose restoring this section to the mandatory provisions. Since the publication of the 2008 NGBS, the IECC window requirements have been updated and improved. Consistent with RECA's previous submissions to the Committee, we believe that the 2012 IECC requirements are the logical foundation for the energy requirements of the NGBS, and we have incorporated those requirements into the proposal below. However, if the Committee decides to use the 2009 IECC as its baseline, we have included the 2009 values as a second option. At a minimum, we recommend maintaining the mandatory Energy Star requirements that are currently in the 2008 NGBS to ensure that there is no backsliding in the latest edition of the NGBS. Recognizing that any of the recommended standards represent an improvement in energy efficiency, we have also added the flexibility of an area-weighted average – something not available in the 2008 NGBS fenestration requirements.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC is the baseline code for the Standard. The consensus committee wanted to preserve the flexibility under the performance path. Option 1: The 2009 IECC is the base. Therefore, the 2012 code is not appropriate for the mandatory minimum requirement. Option 2: The consensus committee wanted options for the performance path and moving this to the mandatory section would limit the options for the performance path. As long as the house acheives the energy savings, the committee recommends that the Standard should not limit the options.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC112 LogID 766 703.1.6.1 Fenestration Specifications *Final Formal Action:* Accept as Modified

Submitter:	**Eric Lacey, RECA**
Public Comment:	**703.1.6 Fenestration** **703.1.6.1** NFRC-certified ~~(or equivalent)~~ U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) <u>on an area-weighted average basis</u> are in accordance with Table 703.1.6.1. Decorative fenestration elements with a maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice. **[Option 1: 2012 IECC mandatory, with one enhanced fenestration option]** **Table 703.1.6.1** **Fenestration Specifications**

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	~~0.65~~ 0.50	~~0.30~~ 0.25
2	~~0.65~~ 0.40	~~0.30~~ 0.25
3	~~0.40~~ 0.35	~~0.30~~ 0.25
~~4 to 8~~	~~0.35~~ 0.35	~~Any~~ 0.40
5 to 8	0.32	Any
	Skylights and TDDs	
1 ~~and 2~~	0.75	~~0.30~~ 0.25
2	0.65	0.25
3	~~0.65~~ 0.55	~~Any~~ 0.25
4	0.55	0.40
45 to 8	~~0.60~~ 0.55	Any

Mandatory

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

Delete Table 703.1.6.2(a) and replace with the following:

Table 703.1.6.2(a)
Enhanced Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	0.45	0.25
2	0.35	0.25
3	0.32	0.25
4	0.30	0.40
5 to 8	0.30	Any
	Skylights and TDDs	
1 and 2	0.60	0.25
3	0.50	0.25
4	0.50	0.35
5 to 8	0.50	Any

Points TBD

Delete Table 703.1.6.2(b) in its entirety

[Option 2: 2009 IECC mandatory, with two enhanced fenestration options]

Delete Table 703.1.6.2(a) and replace with the following:

Table 703.1.6.2(a)
Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	0.50	0.25

2	0.40	0.25	
3	0.35	0.25	Points TBD
4	0.35	0.40	
5 to 8	0.32	Any	
	Skylights and TDDs		
1 ~~and 2~~	0.75	0.25	
2	0.65	0.25	
3	0.55	0.25	
4	0.55	0.40	
5 to 8	0.55	Any	

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

Delete Table 703.1.6.2(b) and replace with the following:

Table 703.1.6.2(b)
Enhanced Fenestration Specifications

Climate Zones	U-Factor	SHGC	
	Windows and Exterior Doors (maximum certified ratings)		Points TBD
1	0.45	0.25	
2	0.35	0.25	
3	0.32	0.25	
4	0.30	0.40	
5 to 8	0.30	Any	
	Skylights and TDDs		
1 and 2	0.60	0.25	
3	0.50	0.25	
4	0.50	0.35	
5 to 8	0.50	Any	

Reason: The 2008 edition of the National Green Building Standard recognized the critical role of efficient windows, doors, and skylights in sustainable building practice. Since the publication of the 2008 NGBS, the IECC window requirements have been updated and improved. Consistent with RECA's previous submissions to the Committee, we believe that the 2012 IECC requirements are the logical foundation for the energy requirements of the NGBS, for both prescriptive and performance paths, and RECA has submitted another proposal that would restore these requirements to the "mandatory" section of the NGBS. However, if the Committee decides not to adopt RECA's first proposal, we propose requiring at least that homes built to the prescriptive option meet the 2012 IECC fenestration requirements. The proposal also clarifies that all windows installed must be NFRC-certified, again consistent with the previous edition of the NGBS. There is no "equivalent" to NFRC certification. NFRC is the standard-setting organization designated by Congress to rate residential and commercial fenestration, and NFRC labels are well-understood and widely used by all major manufacturers. A single, consistent standard that applies to all fenestration will simplify compliance and promote quality building. Recognizing that any of the recommended standards represent an improvement in energy efficiency, we have also added the flexibility of an area-weighted average – something not available in the 2008 NGBS fenestration requirements. The proposal also provides one additional table of "enhanced fenestration values" for additional points. Given the improvement in the 2012 IECC, it would not make sense to propose two additional "for points" tables in the NGBS. The values in the enhanced table represent roughly a 10% improvement in efficiency requirements – a moderate improvement consistent with the 10% improvement in fenestration efficiency required by the International Green Construction Code for commercial construction. If the Committee decides that the 2009 IECC should be the baseline for the prescriptive compliance path, then we recommend adopting the 2012 IECC table as the first set of enhanced requirements for points, followed by an additional enhanced fenestration table. This scenario is outlined in "Option 2" below.

Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **703.1.6.1** NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis are in accordance with Table 703.1.6.1. Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.
Committee Reason:	Options 1 and 2 are rejected as follows: Option 1: The baseline is the 2009 IECC. Option 2: This makes the first tier of points above ENERGY STAR and the intent is that these align with the ENERGY STAR. *Staff Note: The term "equivalent" is preserved because NFRC is a proprietary certification program. It is inappropriate to reference sole-source services in the Standard as the only compliance option.*
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC113 LogID 824 703.1.6.1 Fenestration Specifications *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**703.1.6.1** NFRC-certified (or equivalent) U-factor and SHGC of windows, exteriordoors, skylights, and tubular daylighting devices (TDDs) are in accordance withTable 703.1.6.1. Decorative fenestrationelements with a combined total maximum area of 15 square feet (1.39 m2) or 10percent of the total glazing area, whichever is less, are not required to complywith this practice. **Table 703.1.6.1:Fenestration Specifications** Climate Zones | U-Factor | SHGC 1 | 0.65 | 0.25 ~~0.30~~ 2 | 0.40 ~~0.65~~ | 0.25 ~~0.30~~ 3 | 0.35 ~~0.40~~ | 0.25 ~~0.30~~ ~~4~~-8 | 0.32 ~~0.35~~ | Any Skylights and TDDs | | 1 and 2 | 0.65 ~~0.75~~ | 0.30 3 | 0.55 ~~0.65~~ | 0.30 ~~4-8~~ | 0.55 ~~0.60~~ | 0.40 ~~Any~~ 5-~~8~~ | ~~0.55~~ | Any
Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.

Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC is the base code of the Standard. The current minimum fenestration specifications in Table 703.1.6.1 are consistent with the 2009 IECC.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC114 LogID 837 703.1.6.1 Fenestration Specifications *Final Formal Action:* Reject

Submitter:	**Craig Conner, Building Quality**
Public Comment:	*Add new text after existing text in 703.1.6.1 as follows:* There is no SHGC minimum where simulation analysis of the proposed design shows that a higher SHGC would reduce energy use. There is no SHGC requirement for any glazing which changes SHGC and which is controlled by automated controls.
Reason:	There are designs where a higher SHGC saves energy, or where a higher SHGC on a specific orientation saves energy. Dynamic glazing that can adapt to use the higher and lower SHGC as appropriate could save more energy than either high or low SHGC.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The first sentence is withdrawn by proponent (at the Consensus Committee meeting in Washington, DC in February of 2012). Public comment does not specify a metric for SHGC for dynamic glazing.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC115 LogID 601 703.1.6.2 Enhanced Fenestration Specifications

Final Formal Action: **Accept**

Submitter:	**Nils Petermann, Alliance to Save Energy**
Public Comment:	**Table 703.1.6.2(b)** **Enhanced Fenestration Specifications** Skylights and TDDs (maximum certified ratings): Climate Zone 3: U-factor 0.50; SHGC ~~0.35~~0.30
Reason:	The maximum SHGC for skylights in climate zone 3 as proposed in Table 703.1.6.2(b) exceeds the mandatory maximum SHGC for skylights in this climate zone as shown in Table 703.1.6.1. The enhanced SHGC specifications should be at least as stringent as the mandatory specifications.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	*Staff note: As part of the points update, Table 703.1.6.2(b) was simplified by combining windows and exterior doors with skylights and TDDs into a single fenestration group. The resulting specification for Climate Zone 3 is U-factor of 0.30 and SHGC of 0.25 for all fenestration types.*
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC116 LogID 642 703.1.6.2 Enhanced Fenestration Specifications

Final Formal Action: **Reject**

Submitter:	**John Gant, Glen Raven Inc**
Public Comment:	In proposed Table 703.1.6.2.a, the Zone 4 SHGC value should be "Any", in two places, and the footnote should be "4-8" rather than "5-8".
Reason:	It is incorrect to assume that a reduced SHGC in Zone 4 is an improvement. Heating is more expensive than cooling in these areas, and so solar gain is good. Shading can be provided to provide control as needed beyond what any static window could ever provide.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The intent of Table 703.1.6.2(a) Enhanced Fenestration is to be equivalent with ENERGY STAR. Updating one number in the table would be inconsistent with the intent of the table.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC117 LogID 822 703.1.6.2 Enhanced Fenestration Specifications

Final Formal Action: **Reject**

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	Delete tables 703.1.6.2 (a) and (b) and substitute one table as follows: **Table 703.1.6.2: Enhanced Fenestration Specifications**

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	0.65	0.25
2	0.35	0.25
3	0.32	0.25
4	0.32	0.30
5-8	0.32	N/R
	Skylights and TDDs (Maximum certified ratings)	
1-4	0.50	0.30
5-8	0.50	N/R

Reason:	To maintain validity as an above code program these values need to be adjusted to be consistent with an above-code option compared with values in the latest national mode code, the 2012 IECC.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC is the base code for the Standard. The two tables for points are based on ENERGY STAR (enhanced table a) and DOE window program specifications (enhanced table b), respectively.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC118 LogID 619 703.2.6 Ground Source Heat Pump *Final Formal Action:* Reject

Submitter:	**Robert Brown, WaterFurnace Int'l**
Public Comment:	W-A = Water to Air ISO/AHRI 13256-1 GLHP W-W= Water to Water ISO/AHRI 13256-2 GLHP (1) W-A Open loop: = 16.2 EER / = 3.6 COP 20 W-W Open loop: = 16.0 EER / = 3.4 COP 20 (2) W-A Closed loop: = 14.1 EER / = 3.3 COP 20 W-W Closed loop: = 14.0 EER / = 2.8 COP 20 (3) Direct expansion: = 15.0 EER / = 3.5 COP 20 (4) W-A Any type (open, closed, direct expansion): = ~~24~~ 18 EER / = ~~4.3~~ 3.7 COP 30 W-W Any type (open, closed, direct expansion): = 15.7 EER / = 3.1 COP 30 (5) W-A Any type (open, closed, direct expansion): = ~~28~~ 20EER / = ~~4.8~~ 4.0 COP 35 W-W Any type (open, closed, direct expansion): = 17.5 EER / = 3.2 COP 35
Reason:	1) Energy Efficiency levels are so high that certain sizes of equipment will be precluded from installation. For instance only a 3 ton geothermal unit can pass the criteria if the home requires a 5 ton what is the resolution? 2)EER/COP should be the average of Part Load and Full Load for capacity modulated equipment. 3)Efficiencies are too high to represent any cross section of product. Below I have detailed out that (4) represents essentially the top tier of single speed units with ECM fan motors in the full range of 1 thru 6 ton. (5) represents the top tier of dual or variable speed capacity units with ECM fan motors and is averaging the part load and full load efficiencies of the full line from 1-6 ton. 4) AHRI 13256-1 should be referenced for all water to air product, 13256-2 should be referenced for all water to water product. AHRI 870 should be referenced for all direct exchange product. 5) Significant differences bewteen Water to Air and Water to Water product efficiencies and conditions. Each should be detailed out.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	There are GSHP with lower efficiency levels that qualify for points. The higher point allocations are intended for GSHP with more stringent efficiency ratings.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC119 LogID 817 703.3 Duct Systems *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**703.3.1** All spaceheating is provided by a system(s) that does not include air ducts. Electric resistance heating does not comply with this section.
Reason:	Electric resistance heating does not meet the intention of this section.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	There are some good designs with small loads that can use the electric resistance heating. The committee wants to preserve this flexibility.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC120 LogID 658 703.3.4 Duct Leakage *Final Formal Action:* Accept

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	**703.3.4 Duct Leakage.** The entire central HVAC duct system, including air handlers and register boots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa). The maximum leakage as a percent of the system design flow rate is in accordance with the following:
Reason:	Clarification needed if duct leakage is measured as total leakage of the system or leakage outside of conditioned space?
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	This is a good clarification.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC121 LogID 826 703.3.4 Duct Leakage *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**703.3.4 Duct Leakage.** The entire central HVAC duct system,including air handlers and register boots, is tested by a third party forleakage at a pressure differential of 0.1 inches w.g. (25 Pa). The maximum leakage as ~~a~~ cfm per 100 square feet ~~percent of thesystem design flow rate~~ is in accordance with the following: (1) ~~6 percent~~ 2 cfm for ductwork entirely outside the building'sthermal envelope (2) ~~6 percent~~ 3 cfm for ductwork entirely inside the building'sthermal envelope (3) ~~6 percent~~ 2 cfm for ductwork both inside and outside thebuilding's thermal envelope
Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable. Testing needs to be mandatory and points shall be given for above code performance.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	2009 IECC is the base code for the Standard. Also, the committee prefers the current method for measuring duct leakage as it is commonly used by raters and is more recognized.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC122 LogID 741 703.5.3 Appliances *Final Formal Action:* Reject

Submitter:	**Susan Gitlin, US Environmental Protection Agency**
Public Comment:	
Reason:	This section awards points for the installation of ENERGY STAR® or equivalent refrigerators, dishwashers, and washing machines. For refrigerators, proper disposal of old units should also be a factor. Taking old, inefficient refrigerators, freezers, window air conditioners and dehumidifiers off the grid contributes measurable energy savings. Replacing an older appliance with a new ENERGY STAR® unit can save more than 700 kilowatt-hours (kWh) per year. By saving energy, residents also save money: removing an energy-inefficient appliance translates to savings of more than $140 per year per household. Reduced electricity generation brings down the emissions of some criteria air pollutants, resulting in improved air quality and increased environmental and health benefits for communities.
Committee Action from Meeting:	**Reject**

Modification of Public Comment:	
Committee Reason:	There are points for the efficiency of the refrigerator in Chapter 7. However, the disposal of appliances is not an energy efficiency related issue and it does not apply to the energy chapter for new construction. Chapter 10 addresses building owner's manual which can include information on local recycling programs.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC123 LogID 611 703.6 Passive solar design *Final Formal Action:* Reject

Submitter:	**Curtis L Biggar, Biggar Dev Ltd**
Public Comment:	
Reason:	I have over 50 years experience in passive design including the AIA passive studio i8n 1980. Many of my work employees octagonal floor plans allowing the sun to enter the interior space in the morning & in the afternoon. This increases the solar gain substantially. I also use transoms above the south glass from 2'high up to complete 2 story spaces. This is done with in-floor heat coils. I also use natural lighting & ventilation with vertical glass on the sides of cupolas or clerestory windows above halls ways electrically or pole operated. This eliminates airconditioning in Wisconsin. & should be considered natural whole house ventilation. I believe the remodeling chapter should also address passive solar additions & the other features above. I am pleased with the quality of the original standard & the changes being proposed. These additions could be under special points initiatives because of the lack of passive information available. Please check out my website @ WWWCURTISLBIGGARARCHITECT.COM & check out my green page. Curtis L Biggar Architect/CGP *(Staff note: Due to its size, additional information provided with this public comment is posted at www.nahbrc.com/ngbs in a separate file titled Attachments.)*
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Passive design is covered in the Standard prescriptively (Section 703.6) or it can be modeled in greater detail using the performance path (Section 702).
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

PC124 LogID 608 704.2 Lighting *Final Formal Action:* Reject

Submitter:	**Chris Allison, City of Longmont**
Public Comment:	Should points only be awarded if they exceed the code minimum of 50%?
Reason:	Change this section to reflect that more than 50% of the hard-wired lighting fixtures or bulbs in those fixtures qualify as high efficacy to gain compliance with this section.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Section 704.2 awards points for occupancy sensors for lighting. Section 701.4.4 High Efficacy Lighting under Mandatory Practices includes the 50% hardwired lighting requirement. The revised Section 703.5.1 awards points for hardwired lighting above the 50% threshold. Points for high efficacy lighting above the 50% performance can also be obtained in the performance path.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC125 LogID 663 704.5.2.1 Building envelope leakage testing *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**
Public Comment:	Delete this item entirely
Reason:	Revise Item 703.1.5 to include 3rd Party testing and then 704.5.2.1 Building envelope leakage could just be deleted as it adds confusion and seems like double dipping with points. Points are not lost to Performance Pathway projects as infiltration testing to determine the savings levels above the IECC is usually perfomed by a 3rd party.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The intent is to award points for testing and encourage third-party testing. The Standard differentiates between installation (Section 703.1.5) and testing/verification (Section 704.5.2). In Section 704, points are awarded to encourage testing.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	

Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC126 LogID 762 704.5.3 Insulating hot water pipes *Final Formal Action:* Reject

Submitter:	**Gary Klein, Affiliated International Management, LLC**
Public Comment:	Move to be a section within Section 703.4 Water Heating
Reason:	The content of the section is fine. However, since it is about water heating it would make sense for the pipe insulation to be in the water heating section.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The intent of the current location is to award points for insulating hot water pipes either under the performance or the prescriptive path. This practice must be located in Section 704 to enable use with the performance path.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC127 LogID 764 704.5.3 Insulating hot water pipes *Final Formal Action:* Accept

Submitter:	**Gary Klein, Affiliated International Management, LLC**
Public Comment:	Revise the footnote to Table 704.5.3 Table 704.5.3 Maximum Pipe Run Length 1. Total length of all piping from the source of hot water (either a water heater or distribution manifold (or tee) on a trunk line or a ~~the~~ recirculation loop) to a point of use.
Reason:	It seems useful to more clearly describe where the lengths in the table are to be measured from.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0**

	Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC128 LogID 814 705.1 Energy Consumption Control *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	**705.2 Renewable energy service plan.** Renewable energy service plan is provided as follows: **(1)** Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service. The builder's local administrative office has renewable energy service. **2 (2)** The buyer of the building selects a renewable energy service plan provided by the utility prior to occupancy of the building with a minimum ~~two~~twenty year commitment. 5
Reason:	A two year committment is extremely small in comparison to other energy savings measures. Either the time committment should be altered or points altered.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	20 years is too long of a commitment and two years is appropriate for achieving the intent of this practice.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC129 LogID 816 705.5.1 Photovoltaic *Final Formal Action:* Accept

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	**705.5 Additional renewable energy options** 705.5.1 Renewable Energy System is ~~Photovoltaic panels are~~ installed on the property (e.g., solar photovoltiaic panels, building integrated photovoltaics, wind energy, on-site micro-hydro power, active solar space heating systems, solar thermal hydronic heating system, photovoltaic hybrid heating system). 1 (Points awarded per 100 W of system rating per 2,000 square feet of total conditioned floor area of the building.)

	~~705.5.2 Other on-site renewable energy source is installed (e.g., wind energy, on-site micro-hydro power, active solar space heating systems solar thermal hydronic heating system, photovoltaic hybrid heating system). One-half (Points awarded per 100 W of system rating per 2,000 square feet of total conditioned floor area of the building.)~~
Reason:	As long as renewable energy systems are producing the required 100W per sq/ft they should get the same amount of points. BIPV systems should be included in the list of systems.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC130 LogID 603 801.1 Indoor Hot Water Usage *Final Formal Action:* Reject

Submitter:	**Dale Stroud, Uponor, Inc.**
Public Comment:	Allot points as follows: 3.a = 8 points 3.b = 1 point if a 1" line supplies the manifold; 2 points of a 3/4" line supplies the manifold. If the manifold supply line is less than 8 feet, double the points. 3.c = 6 points
Reason:	The points awarded in this section are NOT proportional to the amount of water that is potentially wasted. For example, 3.a results in a theoretical waste of 4 cups and receives 6 points; 3.b could waste up to 17 cups (due to the 15 feet of supply to the manifold and the volume within the manifold body itself*) and receives 6 points; and 3.c could waste up to 6 cups and receives 8 points. *If the manifold is supplied with 1-inch PEX pipe that is 15 feet in length, approximately 7.3 cups is contained in the supply line. In addition, a typical manifold may contain 1.5 cups within its body. If a 3/4 inch line is used to supply the manifold (15 feet), that line contains about 4.4 cups.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Agree in principle. Rejected in favor of a modified version of PC131.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC131 LogID 776 801.1 Indoor Hot Water Usage *Final Formal Action:* Accept as Modified

Submitter:	**Gary Klein, Affiliated International Management, LLC**
Public Comment:	Please strike the entire section 801.1 Indoor hot water usage and Replace with the following: (1) Minimum Requirements Piping must be sized in accordance with local plumbing code Maximum length to fixture furthest from water heater is 80 feet All hot waterlines must be insulated to at least R-4 More than one water heater is allowed More than one hot water distribution zone is allowed (2) The maximum volume from the water heater to the furthest fixture is 1 gallon Points awarded 1 (3) The maximum volume from the water heater to the furthest fixture is 0.5 gallons Points awarded 2 (4) The maximum volume from the water heater to the furthest fixture is 0.25 gallons Points awarded 4 (5) A demand controlled hot water priming pump is installed on the trunk line and the maximum volume from the trunk line to the furthest fixture is 0.125 gallons (0.19 gallons for island, pennisula and under-window kitchen sinks when foundation is slab-on-grade) Points awarded 8 When the volume in the trunk line to the branch for the furthest fixture is no more than 1 gallon Additional points 1 (6) Add to each hot water distribution system credit when a water heater with at least 0.5 gallon of storage is installed. The storage may be internal or external to a tankless water heater. Tankless water heaters that ramp up to at least 110F within 5 seconds do not need storage. Poins awarded 1
Reason:	The existing language is imprecise and the points awarded are internally inconsistent. In particular, the points should be awarded relative to the amount of water wasted while waiting for the hot water to arrive for each "cold start" event and for subsequent "hot start" events where the trunk or the branch to the fixture is already hot. (3) (a) allows 4 cups from the source to the use. (3) (b) allows 15 feet from the water heater to the manifold and an additional 8 cups from the manifold to the use. The 15 feet can be either 3/4 or 1 inch so the volume is between 5 and 8 cups, including the volume in the manifold. Total for this method is 13-16 cups. Both 3a and 3b are awarded the same number of points in the existing language. (3) (c) allows a maximum of 6 cups and is awarded 8 points. (3) (d) allows a maximum of 8 cups from the manifold to the uses. Points are currently TBD (4) (a) the language for the location of a tankless water heater does not take into account that the unit needs to be closer to the fixtures it serves than the water is wastes while ramping up to temperature. (4) (b) has language on demand pumps that more properly belongs in the Energy chapter under water heating, as the content is about energy, not water. This proposal awards points based on reducing the volume of water in the piping from the source of hot water to the uses. The system that reduces the waste the most gets the most points. Additional points have been proposed when the volume in the trunk line is reduced for demand circulation systems and when the water heater starts out with hot water or can ramp up to full temperature within 5 seconds. This recognizes that tankless water heaters run cold

	water through them as they ramp up to temperature. This water runs down the drain and is additional to the water in the hot water piping that must also run down the drain before the hot water can arrive a fixture. It is important to correlate this section with the section in Energy on insulating hot water pipes. I am willing to assist with this. *(Staff note: Due to its size, additional information provided with this public comment is posted at www.nahbrc.com/ngbs in a separate file titled Attachments.)*
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* *Delete section 801.1 in its entirety and replace with the following:*

801.1 Indoor hot water usage **801.1.1** Indoor hot water supply system is in accordance with one of the practices listed in items (1) through (5). The maximum length from the source of hot water to the termination of the fixture supply is determined in accordance with Tables 801.1(1) or 801.1(2), or 50 feet whichever is less. **(Where more than one water heater is used or where more than one type of hot water supply system, including multiple circulation loops, is used, points are awarded based on the system that qualifies for the minimum number of points.)** **(Systems with circulation loops are eligible for points only if pumps are demand controlled. Circulation systems with timers or aquastats and constant-on circulation systems are not eligible to receive points.)** **(Points for multiple systems are not additive.)** **(The points are awarded only if the pipes are insulated in accordance with Section 704.5.3.)**		
(1)	The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 128 ounces (1 gallon or 3.78 liters)	**11**
(2)	The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 64 ounces (0.5 gallon or 1.89 liters)	**17**
(3)	The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 32 ounces (0.25 gallon or 0.945 liters)	**29**
(4)	A demand controlled hot water priming pump is installed on the main supply pipe of the circulation loop and the maximum volume from this supply pipe to the furthest fixture is 24 ounces (0.19 gallons or 0.71 liters)	**35**
(a)	The volume in the circulation loop (supply) from the water heater or boiler to the branch for the furthest fixture is no more than 128 ounces (1 gallon or 3.78 liters).	**4 Additional Points**
(5)	A central hot water recirculation system is implemented in multi-unit buildings in which the hot water line distance from the recirculating loop to the engineered parallel piping system (i.e., manifold system) is less than 30 feet (9144 mm) and the parallel piping to the fixture fittings contains a maximum of 64 ounces (1.89 liters) (115.50 cubic inches) (0.50 gallons).	**9**
(6)	Tankless water heater(s) with at least 0.5 gallon (1.89 liters) of storage are installed or a tankless water heater that ramps up to at least 110F within 5 seconds is installed. The storage may be internal or external to the tankless water heater.	**4 Additional Points**

Table 801.1(1)
Maximum Pipe Length (ft.)

		Main, Branch and Fixture Supply Systems			Branch and Fixture Supply from Circulation Loop
Nominal Pipe Size (inch)	**Liquid Ounces per Foot of Length**	**128 ounces (1 gallons)**	**64 ounces (0.5 gallon)**	**32 ounces (0.25 gallon)**	**24 ounces (0.19 gallon)**
1/4[b]	0.33	50	50	50	50
5/16[b]	0.5	50	50	50	48
3/8[b]	0.75	50	50	43	32
1/2	1.5	50	43	21	16
5/8	2	50	32	16	12
3/4	3	43	21	11	8
7/8	4	32	16	8	6
1	5	26	13	6	5
1 1/4	8	16	8	4	3
1 1/2	11	12	6	3	2
2	18	7	4	2	1

a. Maximum pipe length figures apply when the entire pipe run is one nominal diameter only. Where multiple pipe diameters are used, the combined volume shall not exceed the volume limitation in Section 801.1

b. The maximum flow rate through 1/4 inch nominal piping shall not exceed 0.5 gpm. The maximum flow rate through 5/16 inch nominal piping shall not exceed 1 gpm. The maximum flow rate through 3/8 inch nominal piping shall not exceed 1.5 gpm.

Table 801.1(2)
Common Hot Water Tubing Internal Volumes

OUNCES OF WATER PER FOOT OF TUBE									
Size Nominal, Inch	**Copper Type M**	**Copper Type L**	**Copper Type K**	**CPVC CTS SDR 11**	**CPVC SCH 40**	**CPVC SCH 80**	**PE-RT SDR 9**	**Composite ASTM F 1281**	**PEX CTS SDR 9**
3/8”	1.06	0.97	0.84	N/A	1.17	N/A	0.64	0.63	0.64
1/2”	1.69	1.55	1.45	1.25	1.89	1.46	1.18	1.31	1.18
3/4”	3.43	3.22	2.9	2.67	3.38	2.74	2.35	3.39	2.35
1”	5.81	5.49	5.17	4.43	5.53	4.57	3.91	5.56	3.91
1 ¼”	8.7	8.36	8.09	6.61	9.66	8.24	5.81	8.49	5.81
1 ½”	12.18	11.83	11.45	9.22	13.2	11.38	8.09	13.88	8.09
2”	21.08	20.58	20.04	15.79	21.88	19.11	13.86	21.48	13.86

Committee Reason:	The modification further develops and clarifies the public comment and reallocates point assignments based on additional analysis approved by the committee.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC132 LogID 682 801.4 Showerheads *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**801.4 Showerheads.** Showerheads are in accordance with the following: **(1)** The total maximum combined flow rate of all showerheads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5 gpm. Maximum of two valves are installed per shower compartment. The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead. **(Points awarded per shower compartment. In multi-unit buildings, a weighted average of bathrooms is used to calculate the number of points available for this practice (rounded down to a whole number.))** **(2)** All ~~showerheads~~ shower compartments in the dwelling unit and common areas meet the requirements of 801.4(1). **~~(Points awarded per shower compartment based on 801.4(2)(a) or 801.4(2)(b).)~~**
Reason:	The NGBS already recognizes that multi-unit buildings should not be limited in the ability to earn points because the building contains units of various sizes. Practice 601.1 allows the use of a weighted average for determining the conditioned area. It is reasonable to extend that approach to water saving fixtures. Awarding additional points for on a per shower compartemnt basis seems unusal since the vast majority of shower compartments have only one showerhead. It is more important to make all shower compartments in the building comply.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Agree with intent. Reject in favor of PC133.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC133 LogID 682' 801.4 Showerheads *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**801.4 Showerheads.** Showerheads are in accordance with the following: **(1)** The total maximum combined flow rate of all showerheads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5 gpm. Maximum of two valves are installed per shower compartment. The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead. **(Points awarded per shower compartment. In multi-unit buildings, a weighted average of bathrooms is used to calculate the number of points available for this practice (rounded down to a whole number.))** **(2)** All ~~showerheads~~ shower compartments in the dwelling unit and common areas meet the requirements of 801.4(1). **~~(Points awarded per shower compartment based on 801.4(2)(a) or 801.4(2)(b).)~~**
Reason:	The NGBS already recognizes that multi-unit buildings should not be limited in the ability to earn points because the building contains units of various sizes. Practice 601.1 allows the use of a weighted average for determining the conditioned area. It is reasonable to extend that approach to water saving fixtures. Awarding additional points for on a per shower compartemnt basis seems unusal since the vast majority of shower compartments have only one showerhead. It is more important to make all shower compartments in the building comply.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **801.4 Showerheads.** Showerheads are in accordance with the following: **(1)** The total maximum combined flow rate of all showerheads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5 gpm. Maximum of two valves are installed per shower compartment. The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead. **(Points awarded per shower compartment. In multi-unit buildings, ~~a weighted~~ ~~the~~ average of points assigned to ~~bathrooms is~~ individual dwelling units may be used ~~asto calculate~~ the number of points available for this practice (rounded ~~down~~ to ~~a~~the nearest whole number).)** **(2)** All ~~showerheads~~ shower compartments in the dwelling units and common areas meet the requirements of 801.4(1). **~~(Points awarded per shower compartment based on 801.4(2)(a) or 801.4(2)(b).)~~**
Committee Reason:	Clarification of rounding method. Editorial revision of the averaging method language.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	***Steven Armstrong:*** If the standard is going to follow suite with the EPA's Water Sense Program then the service pressure for testing the water saving fixtures needs to be at 60 psi
Ballot Comment(s) for Disapprove:	
Ballot Comment(s)	

for Abstain:	

PC134 LogID 830 801.4 Showerheads *Final Formal Action:* Reject

Submitter:	**Mark Dyer, DCI Homes Inc**
Public Comment:	See above
Reason:	This question came about because of the loss of a high scoring emerald oppertunity because a manditory item that should not apply to the house that I am building based on the fact that it is a well and septic home. I am not sure where this is in this section and am out of time to look this up. please forgive the non direct request for change on the subject. Somewhere in the sections shower heads and water closets one is forced to use low flow toilets and faucets manditorally or they can not receive an emerald level of certification. I think this should only be manditory for houses that are located in and using city water and sewer. The intent is to reduce the amount of energy used in providing water and cleaning sewage. This is not the case in houses on property useing soley well and septic. In the case of well and septic usage. The water comes from the ground and goes directly back into the ground. Maybe if there is no manditory change for other reasons not listed than maybe there could be other points listed for well and septic useage because of the energy saved by not using city water and sewage. I however, would love to receive an emerld level on this home but can not because a manditory item that should not apply in this houses case.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The intent is to reduce the amount of water (and the energy involved in hot water) used regardless of the source. Water conserving fixtures and other measures, regardless of the source, should get the points.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC135 LogID 683 801.5 Faucets *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**801.5.1** Water-efficient lavatory faucets with 1.5 gpm (5.68 L/m) or less maximum flow rate when tested at 60 psi (414 kPa) in accordance with ASME A112.18.1 are installed: **(1)** a bathroom (all faucets in a bathroom are in compliance) **(Points awarded for each bathroom. <u>In multi-unit buildings, a weighted average of bathrooms is used to calculate the number of points available for this practice (rounded down to a whole number)</u>.)** **(2)** all lavatory faucets in the dwelling unit and common areas
Reason:	The NGBS already recognizes that multi-unit buildings should not be limited in the ability to earn points because the building contains units of various sizes. Practice 601.1 allows the use of a weighted average for determining the conditioned area. It is reasonable to extend that approach to water saving fixtures.

Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Agree with intent. Reject in favor of PC136.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC136 LogID 683' 801.5 Faucets *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**801.5.1** Water-efficient lavatory faucets with 1.5 gpm (5.68 L/m) or less maximum flow rate when tested at 60 psi (414 kPa) in accordance with ASME A112.18.1 are installed: **(1)** a bathroom (all faucets in a bathroom are in compliance) **(Points awarded for each bathroom. In multi-unit buildings, a weighted average of bathrooms is used to calculate the number of points available for this practice (rounded down to a whole number).)** **(2)** all lavatory faucets in the dwelling unit and common areas
Reason:	The NGBS already recognizes that multi-unit buildings should not be limited in the ability to earn points because the building contains units of various sizes. Practice 601.1 allows the use of a weighted average for determining the conditioned area. It is reasonable to extend that approach to water saving fixtures.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **801.5.1** Water-efficient lavatory faucets with 1.5 gpm (5.68 L/m) or less maximum flow rate when tested at 60 psi (414 kPa) in accordance with ASME A112.18.1 are installed: **(1)** a bathroom (all faucets in a bathroom are in compliance) **(Points awarded for each bathroom. In multi-unit buildings, ~~a weighted~~ the average of points assigned to ~~bathrooms is~~ individual dwelling units may be used ~~as~~to ~~calculate~~ the number of points available for this practice (rounded ~~down~~ to ~~a~~the nearest whole number).)** **(2)** all lavatory faucets in the dwelling unit and common areas
Committee Reason:	Clarification of rounding method. Editorial revision of the averaging method language.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC137 LogID 684 801.6 Water closets and urinals *Final Formal Action:* Reject

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**801.6 Water closets and urinals.** Water closets and urinals are in accordance with the following: **(1)** Gold and emerald levels: All water closets and urinals are in accordance with Section 801.6. **(2)** A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2 (all water closets) or when tested in accordance with ASME A112.19.14 (all dual flush water closets), and is in accordance with EPA WaterSense *Tank-Type High-Efficiency Toilet*, or **(Points awarded per fixture.** In multi-unit buildings, a weighted average of fixtures per unit is used to calculate the number of points available for this practice (rounded down to a whole number)**)** **(3)** All water closets are in accordance with Section 801.6(2). **(a)** Dual flush (or other) water closets are used that have a flush volume of 1.2 gallons or less and comply with 801.6(2); and all other water closets comply with 801.6(2). **(Points awarded per toilet** In multi-unit buildings, a weighted average of fixtures per unit is used to calculate the number of points available for this practice (rounded down to a whole number)**)**
Reason:	The NGBS already recognizes that multi-unit buildings should not be limited in the ability to earn points because the building contains units of various sizes. Practice 601.1 allows the use of a weighted average for determining the conditioned area. It is reasonable to extend that approach to water saving fixtures.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Agree with intent. Reject in favor of PC138.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC138 LogID 684' 801.6 Water closets and urinals *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**801.6 Water closets and urinals.** Water closets and urinals are in accordance with the following:

	(1) Gold and emerald levels: All water closets and urinals are in accordance with Section 801.6. **(2)** A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2 (all water closets) or when tested in accordance with ASME A112.19.14 (all dual flush water closets), and is in accordance with EPA WaterSense *Tank-Type High-Efficiency Toilet*, or **(Points awarded per fixture.** In multi-unit buildings, a weighted average of fixtures per unit is used to calculate the number of points available for this practice (rounded down to a whole number)**)** **(3)** All water closets are in accordance with Section 801.6(2). **(a)** Dual flush (or other) water closets are used that have a flush volume of 1.2 gallons or less and comply with 801.6(2); and all other water closets comply with 801.6(2). **(Points awarded per toilet** In multi-unit buildings, a weighted average of fixtures per unit is used to calculate the number of points available for this practice (rounded down to a whole number)**)**
Reason:	The NGBS already recognizes that multi-unit buildings should not be limited in the ability to earn points because the building contains units of various sizes. Practice 601.1 allows the use of a weighted average for determining the conditioned area. It is reasonable to extend that approach to water saving fixtures.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **801.6 Water closets and urinals.** Water closets and urinals are in accordance with the following: **(1)** Gold and emerald levels: All water closets and urinals are in accordance with Section 801.6. **(2)** A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2 (all water closets) or when tested in accordance with ASME A112.19.14 (all dual flush water closets), and is in accordance with EPA WaterSense *Tank-Type High-Efficiency Toilet*, or **(Points awarded per fixture. In multi-unit buildings, ~~a weighted~~the average of ~~fixtures per unit is~~ points assigned to individual dwelling units may be used ~~to calculate as~~ the number of points available for this practice (rounded ~~down~~ to ~~a~~ the nearest whole number).)** **(3)** All water closets are in accordance with Section 801.6(2). **(a)** Dual flush (or other) water closets are used that have a flush volume of 1.2 gallons or less and comply with 801.6(2); and all other water closets comply with 801.6(2). **(Points awarded per toilet. In multi-unit buildings, ~~a weighted~~the average of ~~fixtures per unit is~~ points assigned to individual dwelling units may be used ~~to calculate as~~ the number of points available for this practice (rounded ~~down~~ to ~~a~~ the nearest whole number).)**
Committee Reason:	Clarification of rounding method. Editorial revision of the averaging method language.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC139 LogID 720 801.7.1 High DU rotating spray heads *Final Formal Action:* Accept

Submitter:	**Brent Mecham, Irrigation Association**
Public Comment:	**801.7.1** ~~High-Distribution Uniformity (DU) rotating spray heads are installed in lieu of spray heads for~~

	~~turf or landscaping.~~Multi-stream, multi-trajectory rotating nozzles are installed in lieu of spray nozzles for turf or landscaping.
Reason:	Use correct generic term for nozzle
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC140 LogID 716 801.7.3 Landscape plan and implementation

Final Formal Action: **Reject**

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Points should be had for self-sustaining landscaping.
Reason:	A self-sustaining landscape helps to reduce water consumption. Hawaii has many indigenous plants that do not require a lot of water.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	A self-sustaining landscape does not require irrigation. Points are already awarded for no irrigation system in Section 801.7.5(3). Awarding points would be redundant and is not necessary.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC141 LogID 721 801.7.2 Drip irrigation zones

Final Formal Action: **Accept as Modified**

Submitter:	**Brent Mecham, Irrigation Association**
Public Comment:	**801.7.2** ~~Drip Irrigation installed for each landscape type. 8 points~~ Drip Irrigation installed for: landscape beds 4 points subsurface drip for turfgrass areas. 4 points
Reason:	provide credit for using in shrub beds only and additional credit if used for turf areas
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **801.7.2** ~~Drip Irrigation installed for each landscape type.~~Drip irrigation is installed. 8 Points Max (1) Drip irrigation is installed for landscape beds. 4 (2) Subsurface drip is installed for turf grass areas. 4
Committee Reason:	The maximum of 8 points is retained.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC142 LogID 685 801.7.5 Irrigation System Smart Controller
Final Formal Action: **Accept as Modified**

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**801.7. 5** The irrigation system(s) is controlled by a smart controller. **~~(Points for 801.7.4(3) are not addittive with points for 801.7.4(a) or 801.7.4(b).)~~**
Reason:	Practices 801.7.4(3), 801.7.4(a), and 801.7.4(b) do not exist in the draft standard.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **801.7. 5** The irrigation system(s) is controlled by a smart controller. **(Points for 801.7.4~~5~~5(3) are not addittive with points for 801.7.4~~5~~5(~~a~~1) or 801.7.4~~5~~5(~~b~~2).)**
Committee Reason:	Editorial coordination based on the updated section numbering.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	

Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC143 LogID 609 901.1 Space and Water Heating Options
Final Formal Action: **Accept as Modified**

Submitter:	**Chris Allison, City of Longmont**
Public Comment:	This item should reference the International Fuel Gas Code (IFGC).
Reason:	This item should reference the International Fuel Gas Code (IFGC) to avoid confusion.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **901.1.4** Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the National Fuel Gas Code or International Fuel Gas Code or the applicable local gas appliance installation code. Gas-fired fireplaces and direct heating equipment are vented to the outdoors.
Committee Reason:	Add IFGC to Section 901.1.4 as an option.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC144 LogID 688 901.1.1 Natural draft furnaces, boilers, or water heaters
Final Formal Action: **Accept as Modified**

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**901.1.3** The following ~~combustion~~ space heating and or water heating equipment is installed ~~within conditioned space~~:as follows: (points awarded for only 1 practice for heating systems and for water heaters). **(1)** all ~~direct vent~~ furnaces or all boilers **5** **(a)** power vent furnace(s) or boiler(s) are in conditioned space **TBD** **(b)** direct vent furnace(s) or boiler(s) are in conditioned space **5** **(c)** Natural draft furnaces and boilers are not located in conditioned spaces, including conditioned crawlspaces. Natural draft furnaces, boilers and water heaters are permitted to be installed within the conditioned spaces if located in a mechanical room that has an outdoor air source, and is otherwise sealed and insulated to separate it from the conditioned space(s). **(2)** all water heaters **(a)** power vent water heater(s) are in conditioned space **3** **(b)** direct vent water heater(s) are in conditioned space **(c)** Natural draft water heaters are not located in conditioned spaces, including conditioned crawlspaces. Natural draft water heaters are permitted to be installed within the conditioned spaces if located in a mechanical room that has an outdoor air source, and is otherwise sealed and insulated to separate it from the conditioned space(s). (3) all heat pump air handlers are installed in (a) unconditioned space

	(b) conditioned space
Reason:	Suggest deleting 901.1.1 and incorporating the idea in 901.1.3. There is often confusion with both builders and verifiers trying to claim points for 901.1.1 for not having natural draft equipment in conditioned space when they do not have any natural draft equipment. Often times they also claim points for not having natural draft equipment and also points for having a heat pump. The old 901.1.1 and 901.1.4 should be combined into one practice that awards points for the appropriate system but does not allow for this confusion.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **901.1.1** Natural draft furnaces, boilers or water heaters are not located in conditioned spaces, including conditioned crawlspaces. Natural draft furnaces, boilers and water heaters are permitted to be installed within the conditioned spaces if located in a mechanical room that has an outdoor air source, and is otherwise sealed and insulated to separate it from the conditioned space(s). **(Points are awarded only for buildings that use combustion space and/or water heating equipment.)**
Committee Reason:	Rejecting the proponent's wording, however, include a points note to Section 901.1.1 to address this issue.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Ted Williams:*** The proponent's language is clearer in characterizing the installation of natural draft appliances by type and resolves the perceived contradictory first two statements of the current 901.1.3 language. A requirement should not state an initial prohibition and follow it with a permissive installation configuration, except through a stated "exception." Current requirements for "sealed and insulated" mechanical rooms where outdoor combustion air is provided have been shown through static energy balance analysis to not be energy efficient due primarily to exclusion of jacket losses to the conditioned space during heating cycles by the repositioning of the thermal barrier. Such designs also present design and construction obstacles for deviating air barriers and thermal barriers from the building exterior and before appliances are installed. Additionally, no specific thermal barrier requirements between the mechanical room and the conditioned space are provided. Finally, concerns about heat losses through outdoor combustion air openings can easily be addressed by providing combustion air via an inverted "U trap" duct. The Committee needs to address these provisions for natural draft appliances more completely with respect to the building envelope interaction.
Ballot Comment(s) for Abstain:	

PC145 LogID 763 901.1.1 Natural draft furnaces, boilers, or water heaters

Final Formal Action: **Reject**

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	**901.1.1** Naturaldraft ~~space heating or water heatingequipment~~ furnaces, boilers orwater heaters are~~is~~ not located in conditioned spaces, includingconditioned crawlspaces. Natural draft furnaces, boilers and water heatersare ~~equipment is~~ permitted to be installed within the conditionedspaces if located in a mechanical room that has an outdoor air source, and isotherwise sealed and insulated to separate it from the conditionedspace(s). ~~5~~ Mandatory

Reason:	The above provisions are recommended to be mandatory for life safety reasons. As we build to tighter standards that are encouraged in this document, combustion safety needs to be prioritized. Tying these particular provisions to points implies that they are optional and not as critical as other mandatory practices.The same life-safety recommendation applies to 901.1.3, 901.1.4, 901.1.5, and 901.2.1. These should be mandatory practices where these appliances are used.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Compliance with the minimum codes per section 901.1.4 provides for safe equipment operation. Natural draft equipment can be installed in homes of different tightness and can operate safely.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC146 LogID 651 901.1.4 Gas fireplaces and direct heating equipment vented outdoors

Final Formal Action: **Reject**

Submitter:	**Don Denton, Vent-Free Gas Products Alliance Section**
Public Comment:	**901.1.4** Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the National Fuel Gas Code or the applicable local gas appliance installation code. ~~Gas-fired fireplaces and direct heating equipment are vented to the outdoors.~~
Reason:	Section should be revised to allow unvented gas-fired fireplaces. They are green as a result of high efficiency and clean combustion. No other gas product permitted by the NGBS has as high an efficiency. Numerous independent, peer-reviewed, research projects have documented that national indoor air quality guidelines for carbon monoxide, carbon dioxide, nitrogen dioxide, oxygen, and water vapor are met. The products' safety record is outstanding and without peer, with 20 million units installed in American homes over the last 30 years. No technical justification exists for excluding them. The products are accepted by the major applicable codes.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Given the air tightness of green homes, unvented appliances should not be installed.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 32** **Disapprove: 3** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s)	***Ted Williams:*** The Committee Reason is erroneous. Appliance sizing and, most directly, heat gain

for Disapprove:	beyond tolerable limits in tight buildings limit the generation of combustion products. The tighter the installation location, the lower the firing (rate and duration) the appliance will be operated to avoid untolerable temperatures. This principle has been applied to gas-fired residential cooking appliances since 1921 (ANSI Standard Z21.1), which associated combustion product loadings with the tightness of kitchens, emission factors from the appliances, and heat rise tolerances for occupants. A technical review in 1994, reviewed by U. S Consumer Product Safety Commission and considering modern air change rates, combustion product exposure criteria, and ASHRAE thermal comfort requirements confirmed the continued efficacy of this approach. Unvented fireplaces are design certified in the same manner. If the stated reason for rejecting the comment is complete, it is inappropriate technically and should be returned to the Committee. ***Frank Stanonik:*** The reason is invalid, unsubstantiated and is refuted by the millions of gas-fired vent free fireplaces or heaters that are being used safely in U.S. homes, some of which are installed tight homes. Gas-fired vent free fireplaces or heaters can be installed in tight homes without adversely affecting the air quality in the home. The standard recognizes that green homes are tighter but they are not sealed enclosures. There must be ventilation of the building in some form or another. In various other provisions the standard addresses what may be done to maintain adequate ventilation and thus air quality in the home or what must be done if certain other features or products are part of the green home. A ban of gas-fired vent free fireplaces or heaters is inconsistent with the basic concept of the standard which allows the builder to select what will be included in the green home he or she is building. In many cases those choices include tradeoffs or incorporation of other features to allow the desired feature chosen by the builder. This concept could be applied to the use of gas-fired vent free fireplaces and heaters. If the committee does not want to address this in the standard then the standard should not mention the product. The current specification to not allow the product is relying on opinion to avoid this task of technically defining the conditions under which these products could be installed in a green home. ***Frank Stanonik:*** The reason is invalid, unsubstantiated and is refuted by the millions of gas-fired vent free fireplaces or heaters that are being used safely in U.S. homes, some of which are installed tight homes. Gas-fired vent free fireplaces or heaters can be installed in tight homes without adversely affecting the air quality in the home. The standard recognizes that green homes are tighter but they are not sealed enclosures. There must be ventilation of the building in some form or another. In various other provisions the standard addresses what may be done to maintain adequate ventilation and thus air quality in the home or what must be done if certain other features or products are part of the green home. A ban of gas-fired vent free fireplaces or heaters is inconsistent with the basic concept of the standard which allows the builder to select what will be included in the green home he or she is building. In many cases those choices include tradeoffs or incorporation of other features to allow the desired feature chosen by the builder. This concept could be applied to the use of gas-fired vent free fireplaces and heaters. If the committee does not want to address this in the standard then the standard should not mention the product. The current specification to not allow the product is relying on opinion to avoid this task of technically defining the conditions under which these products could be installed in a green home.
Ballot Comment(s) for Abstain:	

PC147 LogID 694 901.1.4 Gas fireplaces and direct heating equipment vented outdoors

Final Formal Action: **Reject**

Submitter:	**kenneth belding, empire comfort systems**
Public Comment:	901.1.4 Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the National Fuel Gas Code or the applicable local gas appliance installation code. ~~Gas-fired fireplaces and direct heating equipment are vented to the outdoors.~~ Gas-fired unvented direct heating equipment must comply with ANSI Standard Z.21.11.2.
Reason:	Section 901.1.4; delete, "Gas fired fireplaces and direct heating equipment are vented to the outdoors." Substitute with, "Gas fired unvented direct heating equipment must comply with ANSI Standard Z.21.11.2." My company manufactures and markets vented and vent free direct heating products. We have manufactured vented direct heating products for almost 80 years and the first

	company to certify vent free products almost 30 years ago. Empire has many competing companies manufacturing and marketing vented and vent free as well. The track record for vent free products, relative to emissions, is outstanding. Twenty-one million units have been installed in American homes over the past 30 years with proven performance and safety record. Of those, we have been fortunate enough to sell about 1 million units. I have been in charge of Empire's product liability department for 25 years and have not had a reported death or substantiated illness attributed to our vent free products due to emissions. All vent free products sold in the United States have been certified by agencies such as UL and CSA to an ANSI National Standard which includes the requirements for safety, performance, and construction. It is astounding the products approved to or by the National Center for Disease Control, World Health Organization, DOE, OSHA, EPA, and the CPSC are threatened by a code without any substantiated evidence which, in the end, keeps consumers from making the ultimate green choice. We would ask that you support this code proposal. Two primary criteria for being green: energy efficiency and indoor air quality Enery efficiency: Vent free is more energy efficient than any gas or wood product allowed by the code; on a source basis, vent free is more energy efficient than any electric product allowed by the code. Indoor air quality: vent free complies with Federal IAQ guidelines as confirmed by independent scientific groups. The IGCC IAQ working group has never claimed that Federal IAQ guidelines are inadequate or defined what alternative IAQ guidelines would be acceptable. The code's current disallowance is based upon subjective impressions rather than objective analysis. CPSC staff has confirmed that no emissions related fatalities have ever occurred involving a vent free product. CSA, the Secretariat of the vent free national product standard, has acknowledged that vent free is arguably the safest gas product in existence. Since the beginning of the I-codes, vent free has always been accepted. Vent free performs better relative to IAQ as structures become tighter as confirmed by independent peer-reviewed research--both a unique and important attribute for green construction.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Given the air tightness of green homes, unvented appliances should not be installed.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 33** **Disapprove: 2** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Ted Williams:*** The Committee Reason as it would apply to unvented space heaters is erroneous. Appliance sizing and, most directly, heat gain beyond tolerable limits in tight buildings limit the generation of combustion products. The tighter the installation location, the lower the firing (rate and duration) the appliance will be operated to avoid untolerable temperatures. This principle has been applied to gas-fired residential cooking appliances since 1921 (ANSI Standard Z21.1), which associated combustion product loadings with the tightness of kitchens, emission factors from the appliances, and heat rise tolerances for occupants. A technical review in 1994, reviewed by U. S Consumer Product Safety Commission and considering modern air change rates, combustion product exposure criteria, and ASHRAE thermal comfort requirements confirmed the continued efficacy of this approach. Unvented fireplaces are design certified in the same manner. If the stated reason for rejecting the comment is complete, it is inappropriate technically and should be returned to the Committee. The proposal's referral to ANSI Z21.11.2, the national consensus "Standard for Safety," addresses safe installation of all products listed to that standard and all building tightness considerations. It is the proper authoritative source. ***Frank Stanonik:*** The reason is invalid, unsubstantiated and is refuted by the millions of gas-fired vent free fireplaces or heaters that are being used safely in U.S. homes, some of which are installed tight homes. Gas-fired vent free fireplaces or heaters can be installed in tight homes without adversely affecting the air quality in the home. The standard recognizes that green homes are tighter but they are not sealed enclosures. There must be ventilation of the building in some form or another. In various other provisions the standard

	addresses what may be done to maintain adequate ventilation and thus air quality in the home or what must be done if certain other features or products are part of the green home. A ban of gas-fired vent free fireplaces or heaters is inconsistent with the basic concept of the standard which allows the builder to select what will be included in the green home he or she is building. In many cases those choices include tradeoffs or incorporation of other features to allow the desired feature chosen by the builder. This concept could be applied to the use of gas-fired vent free fireplaces and heaters. If the committee does not want to address this in the standard then the standard should not mention the product. The current specification to not allow the product is relying on opinion to avoid this task of technically defining the conditions under which these products could be installed in a green home.
Ballot Comment(s) for Abstain:	

PC148 LogID 773 901.1.4 Gas fireplaces and direct heating equipment vented outdoors

Final Formal Action: **Reject**

Submitter:	**Frank A. Stanonik, AHRI**
Public Comment:	Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the National Fuel Gas Code or the applicable local gas appliance installation code. ~~Gas-fired fireplaces and direct heating equipment are vented to the outdoors.~~
Reason:	This sentence precludes the installation of a gas-fired vent free fireplace or heater in a "Green" home. This prohibition is unjustified and not technically supported. Green buildings include a variety of design and component features. Some of those features affect the ventilation rate of the house. There are several provisions that address the actual measurement of the air change rate of the home. Given that information, other parameters and the information found in the applicable installation code, a determination can be made as to what design features or components, if any, should be added to accommodate the installation of a gas-fired vent free heaters. As an example, if the natural air change rate is .35 per hour, then a properly sized, listed gas-fired vent free heater can be installed per the referenced installation code without any adverse effect on the indoor air quality. The deletion of this sentence does not promote the installation gas-fired vent-free heaters. It merely reflects the fact that millions of such products are being safely used in homes today. If a builder has chosen to include a gas-fired vent-free heaters in a "Green" home and has taken the steps to ensure that it is installed properly and will have an adequate supply of combustion air, there is no rational reason to dictate that such a home is automatically disqualified from carrying any level of “Green” designation. The choice should be left up to the builder. The standard does not limit the size, number or type of bathtubs and showers that can be provided in a Greeen home because of moisture concerns. Rather, it requires ventilation to address that moisture concern. The same approach should be applied to gas-fired vent-free heaters.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Given the air tightness of green homes, unvented appliances should not be installed.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 33** **Disapprove: 2** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Ted Williams:*** The Committee Reason is erroneous. Appliance sizing and, most directly, heat gain beyond tolerable limits in tight buildings limit the generation of combustion products. The tighter the

	installation location, the lower the firing (rate and duration) the appliance will be operated to avoid untolerable temperatures. This principle has been applied to gas-fired residential cooking appliances since 1921 (ANSI Standard Z21.1), which associated combustion product loadings with the tightness of kitchens, emission factors from the appliances, and heat rise tolerances for occupants. A technical review in 1994, reviewed by U. S Consumer Product Safety Commission and considering modern air change rates, combustion product exposure criteria, and ASHRAE thermal comfort requirements confirmed the continued efficacy of this approach. Unvented fireplaces are design certified in the same manner. If the stated reason for rejecting the comment is complete, it is inappropriate technically and should be returned to the Committee. The proponent's Reason correclty raises the issue of air change rates and their association with both sizing and pollutant accumulaton. It should also be emphasized that direct, localized heating provided by these products is, in of itself, a "green" feature and is recognized as such by the State of California by reducing wasted heat from central systems serving unoccupated areas of the structure. ***Frank Stanonik:*** The reason is invalid, unsubstantiated and is refuted by the millions of gas-fired vent free fireplaces or heaters that are being used safely in U.S. homes, some of which are installed tight homes. Gas-fired vent free fireplaces or heaters can be installed in tight homes without adversely affecting the air quality in the home. The standard recognizes that green homes are tighter but they are not sealed enclosures. There must be ventilation of the building in some form or another. In various other provisions the standard addresses what may be done to maintain adequate ventilation and thus air quality in the home or what must be done if certain other features or products are part of the green home. A ban of gas-fired vent free fireplaces or heaters is inconsistent with the basic concept of the standard which allows the builder to select what will be included in the green home he or she is building. In many cases those choices include tradeoffs or incorporation of other features to allow the desired feature chosen by the builder. This concept could be applied to the use of gas-fired vent free fireplaces and heaters. If the committee does not want to address this in the standard then the standard should not mention the product. The current specification to not allow the product is relying on opinion to avoid this task of technically defining the conditions under which these products could be installed in a green home.
Ballot Comment(s) for Abstain:	

PC149 LogID 778 901.1.5 Gas fireplaces power vented or direct vent vented

Final Formal Action: **Reject**

Submitter:	**Gregg Achman, Hearth & Home Technologies**
Public Comment:	901.1.5 Natural gas and propane fireplaces and direct heating equipment ~~that are~~ shall be power vented or direct vented and have permanently fixed glass fronts or gasketed doors, and comply with ANSI Z21.88/CSA 2.33, ~~or~~ ANSI Z21.50/CSA 2.22~~.~~, or ANSI Z21.86/CSA2.32.
Reason:	Section 901.1.4 refers to gas fired fireplaces and direct heating equipment,therefore, in section 901.1.5 where it is defining requirements and certification standards it should also address the certification standard used by direct heating equipment (ANSI Z21.86/CSA 2.32). Also, the wording for power venting and direct venting for gas fired fireplaces and direct heating equipment is consistent with requirements of section 901.1.3 for heating equipment installed within a conditioned space. The point scale for gas fireplaces and direct heating should be consistent with power vented and direct vented furnaces/boilers/water heaters in how athey affect the indoor environmental quality.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This section is intended only for fireplaces. The proposed language is outside the scope of this section.
Ballot Results on Committee Action:	**Eligible to vote: 41**

	Approve: 35 **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC150 LogID TG3-4 901.1.5 Natural gas and propane fireplaces

Final Formal Action: **Accept**

Submitter:	**Randy Melvin (on behalf of Task Group 3), Winchester Homes**
Public Comment:	**901.1.5** Natural gas and propane fireplaces ~~that~~ are ~~power vented or~~ direct vented, have permanently fixed glass fronts or gasketed doors, and comply with ANSI Z21.88/CSA 2.33 or ANSI Z21.50/CSA 2.22.
Reason:	Points cannot be awarded for power vents for fireplaces with gasketed doors.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Ted Williams:*** Power vented appliances of other types are credited along side direct vent equipment and should be here for fireplaces as well. The proponent has not provided a reason for this exclusion of a design certified appliance.
Ballot Comment(s) for Abstain:	

PC151 LogID 780 901.2.1 Fireplaces, inserts, stoves, and heaters

Final Formal Action: **Reject**

Submitter:	**Gregg Achman, Hearth & Home Technologies**
Public Comment:	901.2.1 (6) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are ~~EPA certified.~~ equipped with outside combustion air and a means of sealing the flue and the combustion air outlets to minimize interior air (heat) loss when not in operation. Points = 4.
Reason:	Add another category for factory built wood-burning fireplaces that are UL 127 certified but not EPA certified, but have outside air and a means of sealing the flue so as to minimize interior air (heat) loss

	when not in operation just like a site built masonry wood burning fireplace [901.2.1(1)]. There is no reason to allow one and not the other when outiffited properly they perform the same. This product would have the same point scale as the site built masonry wood burning fireplace of 4 points.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	It is appropriate to require EPA certification for factory-built fireplaces.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC152 LogID 713 901.2.2 Not installed *Final Formal Action:* Reject

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Point for not having fireplaces or woodstoves or equivalent in Hawaii.
Reason:	This requirement ignores the mild climate of Hawaii.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The committee recognizes that this credit will be common in some areas of the country. The practice provides environmental benefit in those climate zones as well. Buildings without fireplaces in Hawaii are also eligible for these points.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC153 LogID 723 901.5 Cabinets *Final Formal Action:* Accept as Modified

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	**901.5 Cabinets.** A minimum of 85 percent of installed kitchen and bath vanity cabinets are in

	accordance with ~~KCMA ESP 04 (or equivalent) or~~ CARB *Composite Wood Air Toxic Contaminant Measure Standard* or certified by a program such as but not limited to, those in Appendix D. **3** Appendix D 901.5 Cabinets KCMA ESP 04
Reason:	As the KCMA is a certification program that has added features on the base standard (CARB), it should be placed in appendix D with the other programs of the product emission section.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **901.5 Cabinets**. A minimum of 85 percent of installed ~~kitchen and bath vanity cabinets are in accordance with KCMA ESP 04 (or equivalent) or CARB Composite Wood Air Toxic Contaminant Measure Standard.~~ cabinets are in accordance with one or any combination of the following: ~~3~~ **(Where more than one of the following practices is used, points are awarded based on the practice with the fewest number of points.)** **901.5.1 Solid Wood or Non-Formaldehyde Emitting**. If all parts of the cabinet are made of solid wood or non-formaldehyde emitting materials such as metal or glass. 5 points **901.5.2 CARB Compliance**. The composite wood used in wood cabinets are in accordance with CARB Composite Wood Air Toxic Contaminant Measure Standard or equivalent as certified by a program such as but not limited to, those in Appendix D. 3 points Appendix D 901.5 Cabinets KCMA ESP 04
Committee Reason:	The modification was offered by the proponent. The practice is revised to better align with the format of other practices in this chapter.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC154 LogID 689 901.6 Carpets *Final Formal Action:* Accept

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	**901.6 Carpets.** Carpets are in accordance with the following: **(1)** Wall-to-wall carpeting is not installed adjacent to water closets and bathing fixtures. **Mandatory** **(2)** A minimum of 10% of the conditioned floor space has carpet and at least 85 percent of installed carpet area, carpet cushion (padding), and carpet adhesives are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1 when tested by a laboratory with the CDPH/EHLB Standard Method v1.1 within the laboratory scope of accreditation to ISO/IEC 17025 and certified by a third party program accredited to ISO Guide 65, such as, but not limited to, those in Appendix D.
Reason:	This change requires a minimum amount of carpet in order to receive the points and is consistent with how hard surface flooring in now treated in the draft.
Committee Action from Meeting:	**Accept**

Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC155 LogID 729 Appendix D Examples of third-party programs for Chapter 9

Final Formal Action: **Accept as Modified**

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	901.8 Architectural coatings GREENGUARD Environmental Institute Children & Schools Certification Program Scientific Certification Systems (SCS) Indoor Advantage Gold Program Green Seal EcoLogo
Reason:	As we are referencing numerous different standards and compliance pathways for architectural coatings VOC content minimization, we should give manufacturers and builders options. The EcoLogo's certification program to their CCD -047 is a internationally recognized through the Global EcoLabelling Network's membership and has around 2,000 products certified through it from large and small paint manufacturers. Similar to the currently referenced Green Seal, EcoLogo certifications looks at multiple areas for architectural coatings including performance, minimization of harmful chemicals (both to humans and to the environment), and VOC content minimization. Finally you will find the VOC content requirements equal to or below the requirements already called-out in the document.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* Appendix D 901.8 Architectural coatings GREENGUARD Environmental Institute Children & Schools Certification Program Scientific Certification Systems (SCS) Indoor Advantage Gold Program Green Seal-11 Standard for Paints and Coatings EcoLogo CCD-047
Committee Reason:	The modification includes an added level of specificity to two referenced programs.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	

Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC156 LogID 656 901.9 Architectural Coatings *Final Formal Action:* Accept as Modified

Submitter:	**Naveen Berry, SCAQMD**
Public Comment:	*Add new as follows:* **COLORANT** / **Limit** Architectural Coatings, excluding IM Coatings — 50 Solvent-Based IM — 600 Waterborne IM — 50
Reason:	Include a section on VOC limitations for colorants.Earlier this year, the SCAQMD Board adopted VOC limits for colorants added at the point of sale, since the addition of conventional colorants can add a significant amount of VOCs to a low-VOC coating. SCAQMD Rule 1113 section (c)(2), stipulates that the addition of colorants must not exceed the VOC limit of the corresponding coatings. At the point of manufacture, any colorant added is considered part of the overall VOC content of the coating. However, once the product reaches the retail or wholesale market, any colorant added at that point of sale is not considered as part of the total VOC of the product. Therefore, colorants are subject to their own VOC limits.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise Draft Standard as follows:* **901.9 Architectural coatings.** A minimum of 85 percent of the architectural coatings are in accordance with either Section 901.9.1 or Section 901.9.~~2~~3, not both. A minimum of 85 percent of architectural colorants are in accordance with Section 901.9.2. **901.9.2** Architectural coating colorant additive VOC content added is in accordance with Table 901.9.2 1 point **(Points for 901.9.2 are awarded only if base architectural coating is in accordance with 901.9.1.)** Table 901.9.2 VOC content limits for colorants **COLORANT** / **Limit** Architectural Coatings, excluding IM Coatings — 50 Solvent-Based IM — 600 Waterborne IM — 50 **901.9.~~2~~3** Site-applied interior products are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1 when tested by a laboratory with the CDPH/EHLB Standard Method v1.1 within the laboratory scope of accreditation to ISO/IEC 17025 and certified by a third-party program accredited to ISO Guide 65, such as, but not limited to, those found in Appendix D
Committee Reason:	Accept as modified to be consistent with Table 909.1 to not exceed VOC limits. As this is an emerging technology, added one point for this item to encourage use.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

Public Comment(s):	**Section Number:**	901.9 Architectural Coatings
	Full Name:	Timothy Serie, American Coatings Association
	Requested Action:	Delete and substitute as follows
	Suggested Changes:	We suggest the following modification - "adding at the point of retail sale" - to ensure consistency with Rule 1113: “11.901.9 Architectural coatings. A minimum of 85 percent of newly applied architectural coatings are in accordance with either Section 11.901.9.1 or Section 11.901.9.23, not both. A minimum of 85 percent of architectural colorants added at the point of retail sale are in accordance with Section 11.901.9.2.”
	Reason:	The American Coatings Association (ACA) is concerned that the incorporation of VOC limits for colorants in the National Green Building Standard may be premature. The addition of colorants is based on the most recent version of South Coast Air Quality Management District Rule 1113 (SCAQMD or South Coast Rule 1113), a 2011 architectural paint regulation for the Los Angeles basin. Notably, these VOC limits on colorants are the first of their kind, and even though the rule is final, the implementation and compliance date for the limits on colorants is not until January 1, 2014. Given the delayed implementation date, the practical aspects of the colorant regulations have yet to be evaluated, and any problems and technical issues will not arise until after the 2014 compliance date. There may also be difficulties finding a wide range of available paint that meets the VOC limits on colorants across the U.S. since South Coast Rule 1113 has only been adopted in the Los Angeles area. Please be aware of these potential issues. At a minimum, the scope and calculation method for the colorant VOC limits should be consistent with the mandatory regulatory requirements upon which they are based – Rule 1113. The South Coast Rule 1113 colorant restrictions are specific to colorants added at the point of sale. According to Rule 1113 Section (c)(2): “No person within the District shall add colorant at the point of sale that is listed in the Table of Standards 2 and contains VOC in excess of the corresponding VOC limit….” (emphasis added). The SCAQMD Rule 1113 colorant regulations were specifically developed for the point of sale as opposed to colorants added in the field or field diluted concentrates. This is an important policy distinction. Applying the colorant VOC limits beyond the scope of their intended regulatory use may have unexpected, negative consequences. We also suggest including a footnote to clarify how colorants are measured for purposes of the limits. Incorporating this footnote will again ensure consistency with SCAQMD Rule 1113 and the VOC regulatory limits in Footnote “a” in Table 901.9.1. SCAQMD Rule 1113 states that the VOC limits for colorants in the Table of Standards are based on: “Grams of VOC per liter of colorant, less water and less exempt compounds.” Thank you for your consideration of ACA’s comments. Please contact me at (202) 719-3706 or tserie@paint.org if you have any questions.
	Section Number:	901.9.2 Architectural coating colorant additive VOC content
	Full Name:	Timothy Serie, American Coatings Association
	Requested Action:	Delete and substitute as follows
	Suggested Changes:	We suggest the following modification - adding "at the point of retail sale" - to ensure consistency with Rule 1113: “11.901.9 Architectural coatings. A minimum of 85 percent of newly applied architectural coatings are in accordance with either Section 11.901.9.1 or Section 11.901.9.23, not both. A minimum of 85 percent of architectural colorants added at the point of retail sale are in accordance with Section 11.901.9.2.” We suggest adding the following reference footnote to Table 901.9.2: “LIMITa” The footnote should read as follows: “a. Limits are expressed as VOC Regulatory, or grams of VOC per liter of colorant, less water and less exempt compounds.”
	Reason:	The American Coatings Association (ACA) is concerned that the incorporation of VOC limits for colorants in the National Green Building Standard may be premature. The addition of colorants is based on the most recent version of South Coast Air Quality Management District Rule 1113 (SCAQMD or South Coast Rule 1113), a 2011

	architectural paint regulation for the Los Angeles basin. Notably, these VOC limits on colorants are the first of their kind, and even though the rule is final, the implementation and compliance date for the limits on colorants is not until January 1, 2014. Given the delayed implementation date, the practical aspects of the colorant regulations have yet to be evaluated, and any problems and technical issues will not arise until after the 2014 compliance date. There may also be difficulties finding a wide range of available paint that meets the VOC limits on colorants across the U.S. since South Coast Rule 1113 has only been adopted in the Los Angeles area. Please be aware of these potential issues. At a minimum, the scope and calculation for the colorant VOC limits should be consistent with the mandatory regulatory requirements upon which they are based – Rule 1113. The South Coast Rule 1113 colorant restrictions are specific to colorants added at the point of sale. According to Rule 1113 Section (c)(2): "No person within the District shall add colorant at the point of sale that is listed in the Table of Standards 2 and contains VOC in excess of the corresponding VOC limit…." (emphasis added) The SCAQMD Rule 1113 colorant regulations were specifically developed for the point of sale as opposed to colorants added in the field or field diluted concentrates. This is an important policy distinction. Applying the colorant VOC limits beyond the scope of their intended regulatory use may have unexpected, negative consequences. We also suggest including a footnote to clarify how colorants are measured for purposes of the limits. Incorporating this footnote will again ensure consistency with SCAQMD Rule 1113 and the VOC regulatory limits in Footnote "a" in Table 901.9.1. SCAQMD Rule 1113 states that the VOC limits for colorants in the Table of Standards are based on: "Grams of VOC per liter of colorant, less water and less exempt compounds." Thank you for your consideration of ACA's comments. Please contact me at (202) 719-3706 or tserie@paint.org if you have any questions.

PC157 LogID 722 901.9 Architectural Coatings *Final Formal Action:* Withdrawn

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	**(1)** Zero VOC as determined by EPA Method 24 (VOC content below the detection limit for the method) **(2)** GreenSeal GS-11 Standard for Paints and Coatings **(3)** EcoLogo CCD-047 Architectural Surface Coatings ~~**(3)**~~ (4) CARB *Suggested Control Measure for Architectural Coatings* (see Table 901.9.1).
Reason:	As we are referencing numerous different standards and compliance pathways for architectural coatings VOC content minimization, we should give manufacturers and builders options. The EcoLogo's CCD-047 is a consensus developed standard, which is internationally recognized through the Global EcoLabelling Network's membership and has around 2,000 products certified to it. Similar to the currently referenced Green Seal-11, CCD-047 is a multi-attribute standard for architectural coatings which focuses on performance, minimization of harmful chemicals (both to humans and to the environment), and VOC content minimization. Finally you will find the VOC content requirements equal to or below the requirements already called-out in the document.
Committee Action from Meeting:	**Withdrawn**
Modification of Public Comment:	
Committee Reason:	Withdrawn by proponent during TG-3 conference call on January 19, 2012.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC158 LogID 652 901.9.1 Site applied interior architectural coatings

Final Formal Action: **Reject**

Submitter:	**Naveen Berry, SCAQMD**
Public Comment:	Table 901.9.1 VOC Content Limits For Architectural Coatings, Non-Flats Coatings – ~~100~~ 50 Non-Flat High Gloss Coatings – ~~150~~ 50 Aluminum Roof Coatings – ~~400~~ 100 Concrete Curing Compounds – ~~350~~ 100 Floor Coatings – ~~100~~ 50 Industrial Maintenance Coatings – ~~250~~ 100 Rust Preventative Coatings – ~~250~~ 100 Tub and Tile Refinish Coatings – ~~420~~ 250 Waterproofing Membranes – ~~250~~ 100 Zinc-Rich Primers – ~~340~~ 100
Reason:	Disagree with various VOC content limits for architectural coating categories. AQMD's Rule 1113 Architectural Coatings was recently amended on June 3, 2011. The following changes should be made to reflect the current R1113 VOC limits.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	The CARB limits are preferred by the committee for use in the NGBS. The decision to use the CARB limits included industry input.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC159 LogID 818 901.9.1 Site applied interior architectural coatings

Final Formal Action: **Reject**

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	Delete section
Reason:	This section is supposed to be related to site-applied architectural coatings however the requirements especially the table list many other items that are not architectural coatings. Also not all VOC's are hazardous. This section needs a lot of work. For now it should be deleted until better guidance can be developed.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Based on action on PC163. There is scientific data that these chemicals can be harmful to humans. The table provides a comprehensive list of potential products.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC160 LogID 613 901.9.2 Site applied interior products

Final Formal Action: **Accept as Modified**

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**901.9.2** Site-applied interior ~~products~~ architectural coatings, which are inside the water proofing envelope, are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1 when tested by a laboratory with the CDPH/EHLB Standard Method v1.1 within the laboratory scope of accreditation to ISO/IEC 17025 and certified by a third-party program accredited to ISO Guide 65, such as, but not limited to, those found in Appendix D.
Reason:	Replace with the term "products" in order to make the language consistent with 901.9.1 and to distinguish architectural coatings from adhesives and sealants.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **901.9.2** Site-applied interior ~~products~~ architectural coatings~~, which are inside the water proofing envelope,~~ are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1 when tested by a laboratory with the CDPH/EHLB Standard Method v1.1 within the laboratory scope of accreditation to ISO/IEC 17025 and certified by a third-party program accredited to ISO Guide 65, such as, but not limited to, those found in Appendix D.
Committee Reason:	The existing language already specifies the interior application. The deleted language does not clarify this application for builder, verifiers, and code officials.

Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC161 LogID 820 901.9.2 Site applied interior products *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	Delete section
Reason:	Manufacturer's should not be forced to test if they do not have emissions. It adds unneccessary cost.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Based on actions on PC163. There is scientific evidence that chemicals emitted from products can be harmful to humans.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC162 LogID 653 901.10 Adhesives and sealants *Final Formal Action:* Accept

Submitter:	**Naveen Berry, SCAQMD**
Public Comment:	**(3)** SCAQMD Rule 1168 (see Table 901.10.2), excluding products that are ~~purchased in containers that are less than 16 ounces~~ sold in 16 ounce containers or less and are regulated by the California Air Resources Board (CARB) Consumer Products Regulation.
Reason:	Clarification regarding reference to SCAQMD Rule 1168. Certain adhesives and sealants sold in 16 ounce containers or less, e.g. PVC solvent cement, are not regulated by CARB and, therefore, fall under SCAQMD R1168 requirements.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee	

Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC163 LogID 821 901.10 Adhesives and sealants *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	Delete
Reason:	901.10 should be deleted. It is impractical and costly to test products that do not have hazardous VOCs.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	There is scientific evidence that chemicals emitted from products can be harmful to humans.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC164 LogID 823 901.11 Insulation *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	delete section
Reason:	901.11 should be deleted. Insulation is encapsulated in the wall and many types do not have hazardous emissions levels. Manufacturers should not be required to perform expensive testing and certification when their products do not have hazardous emissions.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	

Committee Reason:	There is scientific evidence that chemicals emitted from products can be harmful to humans. There are areas of home where insulation can be exposed to humans and emissions also can reach humans by seeping through the air barrier.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC165 LogID TG3-5 901.11 Insulation *Final Formal Action:* Accept

Submitter:	**Randy Melvin (on behalf of Task Group 3), Winchester Homes**
Public Comment:	**901.11 Insulation.** Emissions <u>of 85 percent</u> of wall, ceiling, and floor insulation materials are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1...*(the rest of section is without change)*
Reason:	The 85% allowance is added to enable inclusion of this practice into the Bronze Level threshold.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	The public comment aligns this practice with other practices in this chapter.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	***Steven Armstrong:*** Calculating what constitutes 85% can be somewhat subject.
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	**Section Number:** 901.11 Insulation **Full Name:** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions **Requested Action:** Revise as follows **Suggested Changes:** ~~Emissions of~~ <u>A minimum</u> of 85% of wall, ceiling . . . **Reason:** This section can be misread to mean that only 85% of the emissions are required to comply.

PC166 LogID 715 902.2.1 Building Ventilation Systems *Final Formal Action:* Reject

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Many points given here for systems that are not available to passively cooled homes.
Reason:	This requirement should take into consideration Hawaii's warm climate and how many of our homes are passively cooled by our tradewinds.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Passive ventilation does not always provide sufficient ventilation for control of air quality and moisture levels in Hawaii. Also passively cooled homes can accrue points in other parts of the Standard. Also the points in this practice have been reduced.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC167 LogID 610 903.1 Plumbing *Final Formal Action:* Withdrawn

Submitter:	**Chris Allison, City of Longmont**
Public Comment:	Clarify which sprinkler lines are not allowed in wall cavities (lawn irrigation or fire suppression) or state that all water lines are not allowed in wall cavities to avoid confusion.
Reason:	P535 Section 903.5.1 should clarify which sprinkler lines are not allowed in wall cavities (lawn irrigation or fire suppression) or state that all water lines are not allowed in wall cavities.
Committee Action from Meeting:	**Withdrawn**
Modification of Public Comment:	
Committee Reason:	Withdrawn by proponent per email dated January 19, 2012.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

PC168 LogID TG3-6 903.2 Duct insulation *Final Formal Action:* Accept

Submitter:	**Randy Melvin (on behalf of Task Group 3), Winchester Homes**
Public Comment:	**903.2 Duct insulation.** ~~All HVAC ducts, plenums, and trunks in unconditioned attics, basements, and crawl spaces are insulated to a minimum of R-6. Outdoor air supplies to ventilation systems are insulated to a minimum of R-6.~~Ducts are in accordance with one of the following. (1) ~~insulated to a minimum of R-6~~All HVAC ducts, plenums, and trunks in are conditioned space. ~~Mandatory~~ 1 point (2) ~~insulated to a minimum of R-8~~All HVAC ducts, plenums, and trunks in are conditioned space. All HVAC ducts are insulated to a minimum of R4. ~~2~~3 points
Reason:	This change aligns point allocations with the new baseline building code requirements.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC169 LogID TG1-1 1001.1 Building owner's manual *Final Formal Action:* Accept

Submitter:	**Matt Dobson (on behalf of Task Group 1), Vinyl Siding Institute**
Public Comment:	Move item #13 to be item #4 and move all other items down.
Reason:	The task group thought item #13 should be raised in importance.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC170 LogID 743 1002.1 Training of Building Owners *Final Formal Action:* Reject

Submitter:	**Susan Gitlin, US Environmental Protection Agency**
Public Comment:	.
Reason:	We are glad to see that recycling practices was added to the training topics. Proper handling of refrigerant-containing appliances in particular should be mentioned. Common refrigerants and insulating foam found in refrigerators and freezers are not only ozone-depleting but are also powerful greenhouse gases. For example, the refrigerant CFC-12 has more than 10,000 times the effect of carbon dioxide in the atmosphere. Further, releasing 1 pound of CFC-11 from the foam in a refrigerator is equivalent to releasing 4,750 pounds of carbon dioxide. Ensuring proper recovery and handling of refrigerant and appliance foam results in benefits to the ozone layer and climate system.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	This section of the standard is intended as a broad education point with regard to operation of the building and household waste management. The subject addressed by the public comment is too specific and not in the scope of this section of the Standard. Additionally, other portions of the standard will likely address these types of issues – Section 1001.1(4) Information on local recycling programs.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC171 LogID 690 11.1 Intent *Final Formal Action:* Withdrawn

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	Task Group 7 is working on a revised verision that I believe will address my concerns.
Reason:	The requirement that each remodleing project receive a certain percentage of points from "applicable" practices will result in the need for much project specific interpretations by the adopting entity making the approach unworkable. There are too many qualifiers needed to clearly indicate if a particular practice is applicable to a particular project.
Committee Action from Meeting:	**Withdrawn**

Modification of Public Comment:	
Committee Reason:	Withdrawn by proponent at the Consensus Committee meeting in Washington, DC in February of 2012.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC172 LogID 745 11.1000 (Occupant education practices) *Final Formal Action:* Reject

Submitter:	**Susan Gitlin, US Environmental Protection Agency**
Public Comment:	.
Reason:	It is especially important that operations manuals for remodeling address proper handling of old appliances. Replacing old refrigerators and freezers with ENERGY STAR® appliances and properly disposing of the old refrigerators and freezers should be added to the list of options.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	During remodeling, disposal of appliances is the responsibility of the remodeler, not the homeowner. Also, Section 11.1001.1(4) addresses local recycling programs. The suggested level of detail proposed by the public comment is too specific for this section of the Standard and would be more appropriate for commentary.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC173 LogID 634 11.600 (Resource efficiency practices) *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	~~**11.603.0 Intent.**~~ ~~**Practices that reuse or modify existing structures, salvage materials for other uses, or use**~~

	~~**salvaged materials in the building's construction are implemented.**~~ ~~**11.603.1 New Work - Reuse of existing building.**~~ ~~**Major elements of existing buildings and structures are reused, modified, or deconstructed for later use in lieu of demolition. Possibly calculate by percentage of materials re-used**~~ ~~**11.603.2 Salvaged materials. Reclaimed and/or salvaged materials and components are used. The total material value and labor cost of salvaged materials is equal to or exceeds 1 percent of the total construction cost.Facilitation for sorting and reuse of scrap building material (e.g., provide a central storage area or dedicated bins) are provided on site and used during construction.**~~ ~~**11.603.3 Scrap materials.**~~
Reason:	Sections 11.603, 11.605, 12.1.1.1(b), 12.4.2.5 should all be removed or the specific requirements removed and they all make a general reference back to waste diversion requirements in chapter 6. The conflicts between sections are confusing and make it seem as though the sections have been written by different authors that have not shared information. For example, 12.1 is the first place where demolition waste diversion is addresses, but why should only bathroom remodels have the opportunity to recycle or salvage, when that could be applied to any project. Please coordinate and clarify these sections.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC174 LogID 635 11.600 (Resource efficiency practices) *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	~~**11.605.0** All waste classified as hazardous shall be properly handled and disposed.~~ ~~**11.605.1** Construction waste management plan. A construction waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of construction and land-clearing waste.~~
Reason:	Sections 11.603, 11.605, 12.1.1.1(b), 12.4.2.5 should all be removed or the specific requirements removed and they all make a general reference back to waste diversion requirements in chapter 6. The conflicts between sections are confusing and make it seem as though the sections have been written by different authors that have not shared information. For example, 12.1 is the first place where demolition waste diversion is addresses, but why should only bathroom remodels have the opportunity

	to recycle or salvage, when that could be applied to any project. Please coordinate and clarify these sections.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC175 LogID 727 11.600 (Resource efficiency practices) *Final Formal Action:* Withdrawn

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	**11.610.2 Sustainable Products.** One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Certification third-party agency is ISO Guide 65 accredited. **10 Points Max** **(1)** 50% or more of carpet installed (by square feet) is third-party certified to NSF/ANSI 140. 5 **(2)** 50% or more of resilient flooring installed (by square feet) is third-party certified to NSF/ANSI 332. **5** **(3)** 50% or more of the insulation installed (by square feet) is third-party certified to EcoLogo CCD-016. **5** **(4)** 50% or more of interior wall coverings installed (by square feet) is third-party certified to NSF/ANSI 342 **5** **(5)** 50% or more of the gypsum board installed (by square feet) is third-party certified to ULE ISR 100 **5** **(6)** 50% or more of the door leafs installed (by number of door leafs) is third-party certified to ULE ISR 102 **5**
Reason:	Single attribute traits allow us to see valuable snapshots of a products impact on certain areas of the environment and they bring value to a building standard such as this one, but many product manufacturers and sustainability purchasers/experts are looking to multi-attribute standards as a way to show that a product, in total, addresses the triple bottom line of sustainability. Referencing these standards and awarding points would allow the homes built to this standard to show that some of the products chosen to build the building have been looked at in terms of their overall sustainable impact. Adding it in renovations would also make this section agree with chapter 6 on which it is modeled after.
Committee Action	**Withdrawn**

from Meeting:	
Modification of Public Comment:	
Committee Reason:	Withdrawn by proponent at the Consensus Committee meeting in Washington, DC in February of 2012.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC176 LogID 643 11.700 (Energy efficiency practices) *Final Formal Action:* Reject

Submitter:	**John Gant, Glen Raven Inc**
Public Comment:	Add 11.701.4.4.1 Window Attachments should be identified using the product selection tool on www.windowattachments.com in order to optimize the benefits of dynamic attachments to manage daylighting and solar heat gain according to user and seasonal needs. At least one attachment should be installed on every window. Mandatory Points = 2.
Reason:	Section 11.701.4.4.1 Fenestration, add section to select "Window Attachments" to increase thermal comfort, visual comfort, and solar control via the installation of appropriate devices as delineated on "www.windowattachments.org" as created by Berkeley Labs, DOE, and BuildingGreen.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC177 LogID 767 11.700 (Energy efficiency practices) *Final Formal Action:* Reject

Submitter:	**Eric Lacey, RECA**
Public Comment:	**11.701.4.4.1 Fenestration**

New Work. NFRC-certified U-factor and SHGC windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis are in accordance with ~~ENERGY STAR, or equivalent, or~~ Table ~~701.4.4.1~~ 11.701.4.4.1. Decorative fenestration elements with a maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

[Option 1: 2012 IECC]

Table 11.701.4.4.1
Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	0.50	0.25
~~1 and~~ 2	~~0.65~~ 0.40	~~0.40~~ 0.25
3	~~0.40~~ 0.35	~~0.40~~ 0.25
~~4 to 8~~	~~0.35~~ 0.35	~~Any~~ 0.40
5 to 8	0.32	Any
	Skylights and TDDs	
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.25
2	0.65	0.25
3 ~~4 to 8~~	~~0.60~~ 0.55	~~Any~~ 0.25
4	0.55	0.40
5 to 8	0.55	Any

Mandatory

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

[Option 2: 2009 IECC]

Table 11.701.4.4.1
Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	1.20	0.30
~~1 and~~ 2	0.65	~~0.40~~ 0.30
3	~~0.40~~ 0.50	~~0.40~~ 0.30
4 to 8	0.35	Any
	Skylights and TDDs	
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.30
2	0.75	0.30
3 ~~4 to 8~~	~~0.60~~ 0.65	~~Any~~ 0.30
4 to 8	0.60	Any

Mandatory

Re-Work. NFRC-certified U-factor and SHGC windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis are in accordance with ~~ENERGY STAR, or equivalent, or~~ Table ~~701.4.4.1~~ 11.701.4.4.1. Decorative fenestration elements with a

maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

[Option 1: 2012 IECC]

Table 11.701.4.4.1
Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	0.50	0.25
~~1 and~~ 2	~~0.65~~ 0.40	~~0.40~~ 0.25
3	~~0.40~~ 0.35	~~0.40~~ 0.25
~~4 to 8~~	~~0.35~~ 0.35	~~Any~~ 0.40
5 to 8	0.32	Any
	Skylights and TDDs	
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.25
2	0.65	0.25
3 ~~4 to 8~~	~~0.60~~ 0.55	~~Any~~ 0.25
4	0.55	0.40
5 to 8	0.55	Any

Mandatory

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

[Option 2: 2009 IECC]

Table 11.701.4.4.1
Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	1.20	0.30
~~1 and~~ 2	0.65	~~0.40~~ 0.30
3	~~0.40~~ 0.50	~~0.40~~ 0.30
4 to 8	0.35	Any
	Skylights and TDDs	
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.30
2	0.75	0.30
3 ~~4 to 8~~	~~0.60~~ 0.65	~~Any~~ 0.30
4 to 8	0.60	Any

Mandatory

Reason: One of the most critical improvements to a renovated building's energy efficiency is high-efficiency fenestration. The renovations chapter makes improved fenestration mandatory in many scenarios, but cites values from an outdated Energy Star standard. Consistent with RECA's other proposals, we urge the Committee to adopt the superior fenestration requirements in the 2012 IECC. However, if the Committee determines that the 2009 IECC is the appropriate baseline, we recommend at least updating the mandatory fenestration efficiency requirements to the 2009 IECC to maintain consistency with the new construction requirements of the NGBS. For convenience, both options are outlined below. Recognizing that any of the recommended standards represent an improvement in energy

	efficiency, we have also added the flexibility of an area-weighted average – something not available in the 2008 NGBS fenestration requirements.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Remodeling practice under this section should be consistent with that for new construction (Chapter 7). Also, in favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC178 LogID 612 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**11.901.8 Architectural coatings.** A minimum of 85 percent of the newly applied architectural coatings are in accordance with either Section 901.8.1 or Section 901.8.2, not both: . ~~**11.901.8.1** Site-applied interior products are in accordance with one or more of the following standards:~~ ~~**(1)** Zero VOC as determined by EPA Method 24 (VOC content below the detection limit for the method)~~ ~~**(2)** CARB *Suggested Control Measure for Architectural Coatings*~~ ~~**(3)** GS-11~~ ~~**(4)** VOC limits in accordance with:~~ ~~**(a)** 50 grams/liter flat~~ ~~**(b)** 100 grams/liter non flat~~ ~~**(c)** 350 grams/liter clear wood varnish~~ ~~**(d)** 550 grams/liter clear wood lacquer~~ ~~**11.901.8.2** Site-applied interior products are in accordance with the emissions levels of CDPH 01350, as certified by a third party program such as the GREENGUARD Environmental Institute's *Children and Schools Certification Program* or the Scientific Certification Systems *Indoor Advantage Gold Program*.~~

Reason:	11.901.8 refers to 901.8.1 and 901.8.2. 11.901.8.1 and 11.901.8.2 regurgitates the language from 901.8.1 and 901.8.2, so there is no need to have it in two places. Plus, it appears as though 11.901.8.1 and 11.901.8.2 have not been updated
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Remodeling is a standalone chapter and the intent is to keep all the information in one place for remodelers. In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC179 LogID 614 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**11.901.9 Adhesives and sealants.** **A minimum of 85 percent of newly applied site-applied adhesives and sealants are in accordance with Section ~~901.9.1 and/or Section 901.9.2.~~ 901.10.**
Reason:	901.9.1 and 901.9.2 applies to Architectural Coatings, so they have been replaced with the appropriate reference: 901.10.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC180 LogID 620 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**11.901.9.2** Interior low-VOC adhesives and sealants. ~~A minimum of 85 percent of~~ s Site-applied ~~products~~ low-VOC adhesives and sealants used within the interior of the building are in accordance with 901.10~~one of the following, as applicable~~. ~~**(1)** CDPH 01350, as certified by a third party program, such as the GREENGUARD Environmental Institute's *Children and Schools Certification Program* or the Scientific Certifications Systems *Indoor Advantage Gold Program*.~~ ~~**(2)** GS-36~~
Reason:	901 appears to be where all IEQ thresholds are placed and other sections in 11.901 refer back to 901; in order to be consistent and reduce redundancies, 11.901.9.2 has been modified to refer back to 901.10 – which also identifies an 85% requirement
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes. Also, remodeling is a standalone chapter and the intent is to keep all the information in one place for remodelers.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC181 LogID 621 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**11.901.9.1 Exterior low-VOC adhesives and sealants:** ~~A minimum of 85 percent of s~~ Site-applied exterior low-VOC adhesives and sealants ~~products~~ used for the installation of subfloors and on the exterior of the project are in accordance with ~~one of the following:~~ 901.10.2. ~~**(1)** The California Air Resources Board consumer products regulation as follows:~~ ~~**(a)** Construction Adhesives: VOC content not to exceed 7 percent by weight or 75 grams/liter, whichever is greater.~~ ~~**(b)** The VOC content of reactive sealants (i.e., silicones, polyurethanes, and hybrids, such as MS Polymer and silylated polyurethane resin or SPUR) not to exceed 4 percent by weight or 50 grams/liter, whichever is greater.~~

	~~**(c)** The VOC content of all other caulks and sealants not to exceed 2 percent by weight or 30 grams/liter, whichever is greater.~~ ~~**(d)** The VOC content of contact adhesives not to exceed 55 percent by weight or 480 grams/liter, whichever is greater.~~ ~~**(2)** GS-36~~ New Section: **901.10.2** ~~11.901.9.1~~ **Exterior low-VOC adhesives and sealants:** A minimum of 85 percent of exterior low-VOC adhesives and sealants used for the installation of subfloors and on the exterior of the project are in accordance with one of the following: **(1)** The California Air Resources Board consumer products regulation as follows: **(a)** Construction Adhesives: VOC content not to exceed 7 percent by weight or 75 grams/liter, whichever is greater. **(b)** The VOC content of reactive sealants (i.e., silicones, polyurethanes, and hybrids, such as MS Polymer and silylated polyurethane resin or SPUR) not to exceed 4 percent by weight or 50 grams/liter, whichever is greater. **(c)** The VOC content of all other caulks and sealants not to exceed 2 percent by weight or 30 grams/liter, whichever is greater. **(d)** The VOC content of contact adhesives not to exceed 55 percent by weight or 480 grams/liter, whichever is greater. **(2)** GS-36
Reason:	901 appears to be where all IEQ thresholds are placed and other sections in 11.901 refer back to 901. In order to be consistent and reduce redundancies, 11.901.9.1 has been modified to refer back to 901.10 – which also identifies an 85% requirement
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes. Also, remodeling is a standalone chapter and the intent is to keep all the information in one place for remodelers.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC182 LogID 699 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Donn Thompson, Portland Cement Association**
Public Comment:	**11.903.2.1 Capillary breaks** 11.37.1 New Work. A capillary break and vapor retarder are installed at all concrete slabs in accordance with Sections ~~903.2.1(1)~~ 602.1.1.1(1)or ~~903.2.1(2)~~ 602.1.1.1(2), as modified by Section ~~903.2.1(3)~~ 602.1.1.1(3): Mandatory (1) A minimum 4-inch-thick (102 mm) bed of ½-inch (13 mm) diameter or greater clean aggregate, covered with polyethylene or polystyrene sheeting, minimum thickness 10 mil (25mm), in direct contact with the concrete slab, with the sheeting joints lapped in accordance with Section ~~903.3~~ 602.1.4. (2) A minimum 4-inch-thick (102 mm) uniform layer of sand, overlain with a layer or strips of geotextile drainage matting, covered with polyethylene sheeting, minimum thickness 10 mil (25mm), with the sheeting joints lapped in accordance with Section 903.3 602.1.4. (3) Modification: (a) In areas with free-draining soils, identified as Group 1 in the ICC IRC by a certified hydrologist, soil scientist, or engineer through a site visit, a gravel bed or geotextile matting is not required. (b) In Dry climate locations, as defined by Figure 6(1), polyethylene sheeting is not required unless required for radon resistance (Section 902.3). 11.37.2 Re-Work. A capillary break and vapor retarder are installed at newly installed concrete slabs in accordance with Sections ~~903.2.1(1)~~ 602.1.1.1(1) or ~~903.2.1(2)~~ 602.1.1.1(2), as modified by Section ~~903.2.1(3)~~ 602.1.1.1(3): (1) A minimum 4-inch-thick (102 mm) bed of ½-inch (13 mm) diameter or greater clean aggregate, covered with polyethylene or polystyrene sheeting minimum thickness 10 mil (25mm), in direct contact with the concrete slab, with the sheeting joints lapped in accordance with Section ~~903.3~~ 602.1.4. (2) A minimum 4-inch-thick (102 mm) uniform layer of sand, overlain with a layer or strips of geotextile drainage matting, covered with polyethylene sheeting, minimum thickness 10 mil (25mm), with the sheeting joints lapped in accordance with Section ~~903.3~~ 602.1.4. (3) Modification: (a) In areas with free-draining soils, identified as Group 1 in the ICC IRC by a certified hydrologist, soil scientist, or engineer through a site visit, a gravel bed or geotextile matting is not required. (b) In Dry climate locations, as defined by Figure 6(1), polyethylene sheeting is not required unless required for radon resistance (Section 902.3).
Reason:	Based on the recommendations of the American Concrete Institute, the minimum thickness of a vapor retarder should be at least 10 mils (25mm) to enable the retarder to maintain its integrety under construction loads. Correct references to portions of section 903 which no longer cover capillary break and vapor retarders. Refer to appropriate portions of section 602.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Based on rejecting the same item for new construction (Chapter 6). Remodeling practice under this section should be consistent with that for new construction. Also, rejected in favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 6 changes.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**

Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Donn Thompson:*** The proposed recommendations are based on consensus reached by the members of the American Concrete Institute and reflect sound construction practice that would be of benefit for the sustainable longevity and performance of buildings constructed under the NGBS.
Ballot Comment(s) for Abstain:	

PC183 LogID 700 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Michael Cudahy, PPFA**
Public Comment:	~~11.901.9 Adhesives and sealants. A minimum of 85 percent of newly applied site-applied adhesives and sealants are in accordance with Section 901.9.1 and/or Section 901.9.2.~~ ~~11.901.9.1 Exterior low-VOC adhesives and sealants: A minimum of 85 percent of site-applied products used for the installation of subfloors and on the exterior of the project are in accordance with one of the following:~~ ~~5~~ ~~(1) The California Air Resources Board consumer products regulation as follows:~~ ~~(a) Construction Adhesives: VOC content not to exceed 7 percent by weight or 75 grams/liter, whichever is greater.~~ ~~(b) The VOC content of reactive sealants (i.e., silicones, polyurethanes, and hybrids, such as MS Polymer and silylated polyurethane resin or SPUR) not to exceed 4 percent by weight or 50 grams/liter, whichever is greater.~~ ~~(c) The VOC content of all other caulks and sealants not to exceed 2 percent by weight or 30 grams/liter, whichever is greater.~~ ~~(d) The VOC content of contact adhesives not to exceed 55 percent by weight or 480 grams/liter, whichever is greater.~~ ~~(2) GS-36~~ ~~11.901.9.2 Interior low-VOC adhesives and sealants. A minimum of 85 percent of site-applied products used within the interior of the building are in accordance with one of the following, as applicable.~~ ~~5~~ ~~(1) CDPH 01350, as certified by a third party program, such as the GREENGUARD Environmental Institute's Children and Schools Certification Program or the Scientific Certifications Systems Indoor Advantage Gold Program.~~ ~~(2) GS-36~~ Replace section with language from 901.10 OR refer to section 901.10
Reason:	VOC sections in renovations do not match VOC sections in new construction. This could become an issue. For consistency, please revise to match, or simply refer back to the relevant section.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC184 LogID 774 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Amanda Evans, Santa Fe**
Public Comment:	(Follow the requirements for new construction)
Reason:	11.902.1 Whole house ventilation should be required for remodel new construction. There is also no provision for mandatory kitchen fans for new construction in this section
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 (new construction) changes.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC185 LogID 775 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Amanda Evans, Santa Fe**
Public Comment:	Make CO monitors mandatory here, instead of awarding points.
Reason:	11.901.12 Carbon Monoxide alarms should be mandatory. Particularly when people are remodeling - and often tightening - existing buildings, there can be negative consequences to pressures in the house that can cause water heaters and other naturally rafting appliances to backdraft and spill carbon monoxide into the house. CO monitors should be mandatory if there are combustion appliances or fireplaces in the house.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. Safety consideratons raised in the public comment are outside of the intent of the Standard. The Standard is a rating system. Refer to Section 101.3 Intent of the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

PC186 LogID 782 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Gregg Achman, Hearth & Home Technologies**
Public Comment:	**11.901.2 Wood-burning and gas Fireplaces and ~~fuel-burning~~ direct heating equipment ~~appliances~~.** Wood-burning and gas Fireplaces and ~~fuel-burning appliances~~ direct heating equipment (except cooking appliances, clothes dryers, water heaters, and furnaces) located in conditioned space are in accordance with the following: **Mandatory** **~~[Section 901.2.1(2)(a) is not mandatory.]~~**
Reason:	Need better clarification that in a remodel a "fireplace" means all wood buring (masonry and factory built)and gas, and to be consisten with 901.1.4, includse direct heating equipment. THe statement Section 901.2.1(2)(a) is a potential safety issue and should not be included in the standard. THis will be covered in a sperate comment.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes. Remodeling practice under this section should be consistent with that for new construction (Chapter 9).
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC187 LogID 783 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Gregg Achman, Hearth & Home Technologies**
Public Comment:	**11.901.2.1 New Work.** Wood-burning Fireplaces and natural drafting gas fireplaces and direct heating equipment ~~fuel-burning appliances~~ are code compliant, vented to the outdoors, and have adequate combustion and ventilation air provided to minimize spillage or back-drafting~~, in accordance with the following, as applicable.~~. Wood-buring fireplaces must have a means of sealing the flue to minimize interior air (heat) loss when not in operation. **Mandatory**

Reason:	11.901.2.1, as modified below, should be done as mandatory in a remodel to ensure that any fuel buring (wood and gas) appliances have the proper air for combustion and will not back draft. This section should not have an "in accordance with the following as applicable" because ther is already a Re-work incentive to comply with 901.2.1, the intent of the section is to ensure that any existing appliances performance is not affected by the remodel and making it mandatory to ensure it but incentivising them to upgrade to something comlying to 901.2.1. All the other sub sections of 11.901.2.1 (other than the two re-work items) are not needed, they are what is being incented in the re-work. Also, 11.901.2.1(2)(a) is a safety issue, putting gasketed doors onto wood burning fireplaces can be a safety (fire hazard) issue, especially wood buring fireplaces that are not design certified for gasketed doors.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes. Also, safety consideratons raised in the public comment are outside of the intent of the Standard. The Standard is a rating system. Refer to Section 101.3 Intent of the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC188 LogID 784 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Gregg Achman, Hearth & Home Technologies**
Public Comment:	~~**11.901.2.1(1)**~~ ~~**Natural gas and propane fireplaces that are power vented or direct vented, are equipped with permanently fixed glass fronts or gasketed doors, and comply with CSA Z21.88a/CSA 2.33a or CSA Z21.50/CSA 2.22.**~~
Reason:	Section not needed, see comments on section 11.901.2.1
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes. Also, safety consideratons raised in the public comment are outside of the intent of the Standard. The Standard is a rating system. Refer to Section 101.3 Intent of the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC189 LogID 786 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Gregg Achman, Hearth & Home Technologies**
Public Comment:	~~**11.901.1.2.1(2)** Solid fuel-burning appliances are in accordance with the following requirements:~~ ~~**(a)** Wood-burning fireplaces are equipped with gasketed doors designed to operate with the doors closed, outside combustion air, and a means is provided for sealing the flue to minimize interior air (heat) loss when not in operation.~~ ~~**(b)** Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are EPA certified.~~ ~~**(c)** Masonry heaters are in accordance with the definitions in ASTM E1602 and ICC IBC, Section 2112.1.~~ ~~**(d)** Pellet (biomass) stoves and furnaces are in accordance with the requirements of ASTM E1509 or are EPA certified.~~ ~~**(e)** Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, are in accordance with the certification requirements of UL 1482 and are in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-433-100(3).~~
Reason:	All sections in and under 11.901.2.1(2)to be stricken, see previous comment to 11.901.2.1.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with the Chapter 9 changes. Also, safety consideratons raised in the public comment are outside of the intent of the Standard. The Standard is a rating system. Refer to Section 101.3 Intent of the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC190 LogID 825 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	Delete section
Reason:	There should not be requirements for testing and certifying products that don't have IEQ issues.

Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Remodeling practice under this section should be consistent with that for new construction (Chapter 7).
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC191 LogID 827 11.900 (IEQ practices) *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	**11.903.4.2 Moisture control measures.** Moisture content of subfloor, substrate, or concrete slabs is in accordance with the appropriate industry standard for the new finish flooring to be applied. **Mandatory** **(1)** Building materials with visible mold are not installed or are cleaned or encapsulated prior to concealment and closing. **2** **(3)** The moisture content of lumber is sampled to ensure it does not exceed 19 percent prior to the surface and/or wall cavity enclosure. ~~**4**~~ **Mandatory**
Reason:	The moisture content of wood is just as important as the moisture content of insulation. Both should be mandatory.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Remodeling practice under this section should be consistent with that for new construction (now in Chapter 6). Also, in favor of public comment PC193. PC193 includes a comprehensive set of revisions to Chapter 11 and is coordinated with other changes to the Standard.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s)	

for Abstain:	

PC192 LogID 728 Other for Chapter 11 (include section number and title below) *Final Formal Action:* Withdrawn

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	Please use product emission credits in chapter 9 as substitutes for all relevant renovation chapters' product emission credits.
Reason:	This comment should apply to all of Chapter 11 & 12 (all product emission sections (11.901.4, 11.901.5, 11.901.6, 11.901.7, 11.901.8, 11.901.9, 11.901.10, 11.901.11, 12.1.1.4 (b)/(c), 12.1.2.2(a), 12.2.2, 12.2.7, 12.2.9, 12.4.4.6, 12.4.4.7)) A great deal of work was done by work group 3 on chapter 9 to ensure that the correct information, standards, and details were used in the product emission section. I would ask that the information in chapter 9 be used to update all product emission sections of the renovation chapters.
Committee Action from Meeting:	**Withdrawn**
Modification of Public Comment:	
Committee Reason:	Withdrawn by proponent at the Consensus Committee meeting in Washington, DC in February of 2012.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC193 LogID 757 Other for Chapter 11 *Final Formal Action:* Accept as Modified

Submitter:	**Paul Sullivan (on behalf of Task Group 7), The Sullivan Company, Inc.**
Public Comment:	*Staff note: See Chapter 11 (in its entirety) of Draft #2 for the content of the public comment.*
Reason:	Comprehensive review of Chapter 11 by Task Group 7 chairs and NAHB Research Center has resulted in a series of proposed edits, many of which are a result of incorporating the changes made by other Task Groups in their respective sections. TG7 could not complete their revisions without the revisions of the other task groups in place so this work is put forth as public comment.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Staff note: Per consensus committee's instructions, the approved public comments for Chapters 5, 6, 7, 9, and 10 are incorporated in the respective sections of the proposed Chapter 11. All updated point assignemnts are also carried over from Chapters 5, 6, 7, 9, and 10 to the respective sections of the proposed Chapter 11. All modifications are shown in track changes.*
Committee Reason:	Coordination of Chapter 11 with the approved changes to Chapters 5, 6, 7, 9, and 10.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Ted Williams:*** The language of the proponent for Public Comment 144 is clearer in characterizing the installation of natural draft appliances by type and resolves the perceived contradictory first two statements of the current 901.1.3 language. That language should be used here in Section 11.901.1.2. A requirement should not state an initial prohibition and follow it with a permissive installation configuration, except through a stated "exception." Current requirements for "sealed and insulated" mechanical rooms where outdoor combustion air is provided have been shown through static energy balance analysis to not be energy efficient due primarily to exclusion of jacket losses to the conditioned space during heating cycles by the repositioning of the thermal barrier. Such designs also present design and construction obstacles for deviating air barriers and thermal barriers from the building exterior and before appliances are installed. Additionally, no specific thermal barrier requirements between the mechanical room and the conditioned space are provided. Finally, concerns about heat losses through outdoor combustion air openings can easily be addressed by providing combustion air via an inverted "U trap" duct. The Committee needs to address these provisions for natural draft appliances more completely with respect to the building envelope interaction.
Ballot Comment(s) for Abstain:	
Public Comment(s):	**Section Number:** 11.505 Innovative Practices **Full Name:** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions **Requested Action:** Revise as follows **Suggested Changes:** Add aged values and harmonize with the IGCC values. **Reason:** The same roofing products are typically used for commercial and residential construction. Having differing product requirements will make it difficult for roofing product manufacturers as well as impacting builders' material choices. Also, not having aged values gives a pass to non-durable reflective products.
	Section Number: 11.601 Quality of Construction Materials **Full Name:** Dan Marvin, Florida Tile, Inc. **Requested Action:** Revise as follows **Suggested Changes:** <u>h. Interior flooring not requiring paint or stain</u> **Reason:** Interior flooring is omitted on this list of items that don't require finishing in section 11.601.7
	Section Number: 11.601 Quality of Construction Materials **Full Name:** Susan Gitlin, US Environmental Protection Agency **Requested Action:** Revise as follows **Suggested Changes:** Revise the language as follows: "Minimum structural member or element sizes necessary for strength and stiffness in accordance with advanced framing techniques <u>that are in conformance with local building codes</u> or structural design standards are selected. " **Reason:** Subsection 11.601.2 Material Usage Even though advanced framing techniques have been proven effective, in some instances because of local conditions, such as wind or seismic potential, some of the techniques are not allowed by local codes. It would be vigilant to mention possible code restrictions and recommend consulting building codes for the selection of suitable advanced framing technique options.

	Section Number: 11.602 Enhanced Durability **Full Name:** Susan Gitlin, US Environmental Protection Agency **Requested Action:** Revise as follows **Suggested Changes:** Require that the through wall flashing at transitions between wall cladding materials, or wall construction types be mandatory. **Reason:** Subsection 11.602.1.9 Flashing Part (6) awards 2 points for through wall flashing at transitions between wall cladding materials, or wall construction types. Transitions between materials are typically continuous and present a great opportunity to insert flashing, allow for water to drain out of the walls and prevent water damage. Providing through wall flashing at transitions between wall cladding materials is just a good practice and should be mandatory.
	Section Number: 11.602 Enhanced Durability **Full Name:** Thomas Culp, Birch Point Consulting LLC, Aluminum Extruders Council **Requested Action:** Revise as follows **Suggested Changes:** Insert new section after 11.602.1.10 Exterior doors: **11.602.1.11 Exterior windows.** All existing exterior windows are covered by storm windows or panels to protect the building from the effects of precipitation, and improve the air sealing and energy performance of the building. Newly installed storm windows or panels over existing glazing shall contain a low-emissivity coating. Points: 1 point per every 2 windows. 4 points max. **Reason:** Address durability of existing windows. If a window it not going to be replaced, then low-e storm windows / panels should be encouraged to protect the existing windows. Storm windows also bring an added benefit of improved energy performance. DOE-funded case studies in Chicago and Atlanta have shown an average 5-11% reduction in whole home air leakage just from adding low-e storm windows to single pane windows without doing anything else. The proposal also includes the requirement to use low-e storm windows / panels with a low-e coating rather than just clear uncoated glass. These are now readily available, and DOE, LBNL, and private industry have been promoting this as a cost effective tool for improving window energy performance, both from an insulating and air sealing viewpoint. It is easily shown that the additional cost for the low-e coating is economically justified. Using a scalar ratio analysis for an apartment building with an overly conservative high incremental cost of $2.50 per ft2, the assumed scalar ratio only need be 7.4 or higher to be cost effective, which corresponds to an economic lifetime of only 12 years. These products are designed for a minimum of 20 years, easily surpassing this criteria. At more realistic incremental cost, the simple payback is between 4-5 years.
	Section Number: 11.602 Enhanced Durability **Full Name:** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions **Requested Action:** Delete without substitution **Suggested Changes:** Delete section 11.602.1.6. **Reason:** Section 11-602.1.6 should be deleted entirely. First, there is no definition for “termite resistant materials” in this standard. Second, the IRC appropriately regulates construction in termite infestation areas, with a strong focus on foundation construction and separation of grade and cladding to allow for easy inspection of termite tunnels. This proposed section in the IgCC adds stringent requirements, that would ban products such as wood frame construction, wood siding, wood decks, cellulose based building paper, etc. There is no substantiation that the current IRC termite provisions are failing.

	Section Number: 11.602 Enhanced Durability **Full Name:** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions **Requested Action:** Revise as follows **Suggested Changes:** 11.602.1.9(2) All window head and jamb flashing ~~are self-adhered flashing complying~~ complies with AAMA 711-07. **Reason:** We support the use of this durability standard but as currently written this langauge may exclude new technologies.
	Section Number: 11.602 Enhanced Durability **Full Name:** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions **Requested Action:** Revise as follows **Suggested Changes:** (1) a concrete slab over 6 mil polyethylene ~~or polystryene~~ sheeting, lapped a minumum of 6 inches (152mm), and taped ~~or sealed~~at the seams or polystyrene sheathing taped or sealed at the seams. **Reason:** The way section 11.602.1.4.2(1) is written it is not constructable for all options. We suggest altering the language to make it workable
	Section Number: 11.603 Reused or Salvaged Material **Full Name:** Susan Gitlin, US Environmental Protection Agency **Requested Action:** Revise as follows **Suggested Changes:** Revise the language as follows: “Reclaimed and/or salvaged materials and components that have been managed in compliance with local, state and federal laws are used in consistency with the requirements of local building codes. The total material value and labor cost of salvaged materials is equal to or exceeds 1 percent of the total construction cost. **Reason:** Subsection 11.603.2 Salvaged materials Reuse is a high-priority for material management, but materials have to be reused in safe and protective manner. One caution is that potentially harmful materials that had historically circulated in the construction and maintenance of buildings could be reintroduced into the building stock. Another concern is that depending on the application, the structural and energy-efficiency performance of certain recovered materials may not meet the requirements of building codes.
	Section Number: 11.603 Reused or Salvaged Material **Full Name:** Susan Gitlin, US Environmental Protection Agency **Requested Action:** Revise as follows **Suggested Changes:** **11.603.3 Scrap materials.** Facilitation for sorting and reuse of scrap building material: □ Provide a central storage area or dedicated bins □ Protect material from any damage that might render it undesirable □ Identify and contact salvage companies and reuse stores early for information about appropriate handling procedures and best ways and time to haul the material **Reason:** Subsection 11.603.3 Scrap materials For construction waste management to be successful, a collection area should be available. However, it is equally practical and

		supportive of success to identify salvage companies and reuse stores, their appropriate handling procedures and best ways and time to haul the material - reuse businesses may have limited space and might change the selection of materials they'll take. Also, the builders should take care to protect the materials from any damage that might render them undesirable so as to ensure the success of the effort.
	Section Number:	11.605 Recycled Construction Waste
	Full Name:	Susan Gitlin, US Environmental Protection Agency
	Requested Action:	Revise as follows
	Suggested Changes:	**11.605.3 Recycled construction materials.** Construction materials (e.g., wood, cardboard, metals, drywall, plastic, asphalt roofing shingles, or concrete) <u>that can't be salvaged and reused onsite</u> are recycled offsite.
	Reason:	Subsection 11.605.3 Recycled construction materials. Onsite salvage and reuse is preferred to offsite recycling because of reduced hauling and transportation impacts; it should be emphasized that reuse is a higher priority.
	Section Number:	11.611 Innovative Practices
	Full Name:	Amy Schmidt, The Dow Chemical Company, Dow Building Solutions
	Requested Action:	Revise as follows
	Suggested Changes:	**Reduce total points to 6, Reduce all subcategories to 2 each.**
	Reason:	Reason: placing requirements on products where there is only one standard performed, in many instances by one laboratory or accreditation entity severely limits builders material choices.
	Section Number:	11.701 Energy Efficiency Requirements
	Full Name:	Thomas Culp, Birch Point Consulting LLC, Aluminum Extruders Council
	Requested Action:	Revise as follows
	Suggested Changes:	**Insert new mandatory section after 11.701.4.3.3 Fenestration air leakage:** **<u>11.701.4.3.4 Storm Windows.</u>** <u>Newly installed storm windows or panels over existing glazing shall contain a low-emissivity coating. Installation maybe either on the inside or outside of the existing glazing.</u>
	Reason:	Ensure storm windows / panels include low-e. Low-e storm windows / panels are now readily available, where additional energy savings are provided by the use of a low-e coating rather than just clear uncoated glass. DOE, LBNL, and private industry have been promoting this as a cost effective tool for improving window energy performance, both from an insulating and air sealing viewpoint. This proposal does not require that low-e panels be installed on all existing windows (although that could be considered for points), but just ensures that when a storm window / panel is installed, that it at least use low-e glass. It is easily shown that the additional cost for the low-e coating is economically justified. Using a scalar ratio analysis for an apartment building with an overly conservative high incremental cost of $2.50 per ft2, the assumed scalar ratio only need be 7.4 or higher to be cost effective, which corresponds to an economic lifetime of only 12 years. These products are designed for a minimum of 20 years, easily surpassing this criteria. At more realistic incremental cost, the simple payback is between 4-5 years.
	Section Number:	11.701 Energy Efficiency Requirements
	Full Name:	Miki Cook, Austin Energy Green Building

	Requested Action:	Revise as follows
	Suggested Changes:	include a Mandatory practice for any "whole house" rating that requires that all issues related to long-term durability (moisture), thermal performance, or efficiency (e.g. duct leakage) reported during the pre-remodel audit be addressed within the scope of the remodel.
	Reason:	many of the Mandatory practices only apply to elements of the building "that are exposed or created during the remodel," which indicates that even though they may have been indicated during a "before" audit, if the homeowner chooses not to address them in the remodel scope, they could remain unaddressed and the project could still be certified, if it otherwise meets the energy, water, and point requirements. As a Verifier for NGBS, I have concern for qualifying a project for certification if it has failed to address durability, leakage, or performance issues that were discovered pre-remodel in an audit.
	Section Number:	11.901.1 Space and water heating options
	Full Name:	Jim Ranfone
	Requested Action:	Revise as follows
	Suggested Changes	~~Gas- Fired fireplaces and direct heating equipment are vented to the outdoors.~~
	Reason:	Delete last line of Section 11.901.1.4. Both the National Fuel Gas Code and the International Fuel Gas Code permit the installation of gas fired fireplaces and direct heating equipment that are design certified to American National Standards to operate without being vented to the outdoors. There is no technical justification to ban or restrain the trade of these types of products in the National Green Building Standard particularly in a remodeling application.
	Section Number:	11.901.0 Intent
	Full Name:	Jim Ranfone, AGA
	Requested Action:	Delete and substitute as follows
	Suggested Changes:	~~11.901.1.6 The following electric equipment is installed:~~ ~~(1) heat pump air handler in unconditioned space 2~~ ~~(2) heat pump air handler in conditioned space 5~~
	Reason:	Delete 11.901.1.6 What is the rationale for giving Points for indoor air quality for installing electric heat pump air handlers? Such s provision underminds the integrity of the National Green Building Standard and amounts to double dipping on Points allocation as well as promoting sll electric homes. This is particularly disturbing in a remodeling application.
	Section Number:	11.901.11 Insulation
	Full Name:	Amy Schmidt, The Dow Chemical Company, Dow Building Solutions
	Requested Action:	Revise as follows
	Suggested Changes:	Reduce category to 2 points.
	Reason:	Reason: placing requirements on products where there is only one standard performed, in many instances by one laboratory or accreditation entity severely limits builders material choices.
	Section Number:	11.901.12 Carbon monoxide (CO) alarms
	Full Name:	Jim Ranfone, AGA
	Requested Action:	Delete without substitution

	Suggested Changes:	~~11.901.13 Carbon Monoxide (CO) Alarms~~
	Reason:	A CO Alarm is a life safety device and should not be included in this standard which by it's Scope is not considered a life safety code. Otherwise, similar requirements like smoke and/or fire alarms, sprinklers, etc. could be considered for inclusion into this standard. CO alarms are appropriately covered in other building codes and need not be referenced here or be given POINTS for their installation.
	Section Number:	11.902 Pollutant Control
	Full Name:	Jim Ranfone, AGA
	Requested Action:	Revise as follows
	Suggested Changes:	(2) Clothes dryers are ~~vented~~ exhausted to the outdoors.
	Reason:	Clothes dryers are not vented but exhausted to the outdoors. There are many vent sizing tables in the National and International Fuel Gas Codes and they do not apply to clothes dryers.

PC194 LogID 622 12.1 Bathroom renovations *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	12.1.1.4(b) Newly applied interior architectural coatings, which are inside the water proofing envelope, ~~products~~ are in accordance with section 901.9.1.~~one or more of the following standards~~: ~~Zero VOC as determined by EPA Method 24 (VOC content below the detection limit for the method)~~ ~~CARB~~ ~~*Suggested Control Measure for Architectural Coatings*~~ ~~*GS-11*~~ ~~*VOC limits in accordance with:*~~ ~~*(a) 50 grams/liter flat*~~ ~~*(b) 100 grams/liter non flat*~~ ~~*(c) 350 grams/liter clear wood varnish*~~ ~~*(d) 550 grams/liter clear wood lacquer*~~ ~~*CDPH 01350, as certified by a third party program such as the GREENGUARD Environmental Institute's*~~ ~~*Children and Schools Certification Program or the Scientific Certification Systems Indoor Advantage Gold Program*~~
Reason:	The term "products" has been replaced to clarify that this section is addressing architectural coatings rather than sealants. Also, the compliance standards in 12.1.1.4(b) are the same as section 901.9.1, so in order to reduce redundancy, they have been removed and reference made to 901.9.1. Is this section supposed to include a threshold for 85% like other similar sections?
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC195 LogID 623 12.1 Bathroom renovations *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	12.1.1.4(c) Interior low-VOC adhesives and sealants. ~~A minimum of 85 percent of n~~Newly applied low-VOC adhesives and sealants ~~products~~ used within the interior of the building are in accordance with section 901.10 ~~one of the following, as applicable.~~ ~~CDPH 01350, as certified by a third party program, such as the GREENGUARD Environmental Institute's~~ ~~*Children and Schools Certification Program or the Scientific Certifications Systems Indoor Advantage Gold Program.*~~ ~~GS-36~~
Reason:	Replace the ambiguous term "products" with what the product is. Make reference to section 901.10 instead of repeating the resource references, including the 85% threshold requirement.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC196 LogID 636 12.1 Bathroom renovations *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	~~**12.1.1.1(b)** Demolition Waste. All waste classified as hazardous generated during demolition shall be properly handled and disposed.~~ ~~**12.1.1.1(c)** Demolition Waste. At least 50% of demolition waste not classified as hazardous is diverted from landfill.~~
Reason:	Sections 11.603, 11.605, 12.1.1.1(b), 12.4.2.5 should all be removed or the specific requirements removed and they all make a general reference back to waste diversion requirements in chapter 6. The conflicts between sections are confusing and make it seem as though the sections have been written by different authors that have not shared information. For example, 12.1 is the first place where demolition waste diversion is addresses, but why should only bathroom remodels have the opportunity to recycle or salvage, when that could be applied to any project. Please coordinate and clarify these sections.

Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC197 LogID 701 12.1 Bathroom renovations *Final Formal Action:* Reject

Submitter:	**Michael Cudahy, PPFA**
Public Comment:	~~12.1.1.4(c) Interior low-VOC adhesives and sealants. A minimum of 85 percent of newly applied products used within the~~ ~~interior of the building are in accordance with one of the following, as applicable.~~ ~~CDPH 01350, as certified by a third party program, such as the GREENGUARD Environmental Institute's~~ ~~Children and Schools Certification Program or the Scientific Certifications Systems Indoor Advantage Gold Program.~~ ~~GS-36~~ Refer to, or replace with, language from section 901.10
Reason:	VOC sections in small renovations do not match VOC sections in new construction. This could become an issue. For consistency, please revise to match, or simply refer back to the relevant section.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s)	

for Disapprove:	
Ballot Comment(s) for Abstain:	

PC198 LogID 768 12.1 Bathroom renovations *Final Formal Action:* Reject

Submitter:	**Eric Lacey, RECA**
Public Comment:	**12.1.1.2(a) Fenestration.** NFRC-certified U-factor and SHGC windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis are in accordance with ~~ENERGY STAR, or equivalent, or~~ Table ~~701.4.4.1~~ 12.1.1.2(a). Decorative fenestration elements with a maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

[Option 1: 2012 IECC]

Table ~~701.4.4.1~~ 12.1.1.2(a)
Fenestration Specifications

Climate Zones	U-Factor	SHGC	
	Windows and Exterior Doors (maximum certified ratings)		
1	0.50	0.25	
~~1 and~~ 2	~~0.65~~ 0.40	~~0.40~~ 0.25	
3	~~0.40~~ 0.35	~~0.40~~ 0.25	Mandatory
~~4 to 8~~	~~0.35~~ 0.35	~~Any~~ 0.40	
5 to 8	0.32	Any	
	Skylights and TDDs		
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.25	
2	0.65	0.25	
3 ~~4 to 8~~	~~0.60~~ 0.55	~~Any~~ 0.25	
4	0.55	0.40	
5 to 8	0.55	Any	

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

[Option 2: 2009 IECC]

Table ~~701.4.4.1~~ 12.1.1.2(a)
Fenestration Specifications

Climate Zones	U-Factor	SHGC	
	Windows and Exterior Doors (maximum certified ratings)		
1	1.20	0.30	
~~1 and~~ 2	0.65	~~0.40~~ 0.30	
3	~~0.40~~ 0.50	~~0.40~~ 0.30	Mandatory
4 to 8	0.35	Any	
	Skylights and TDDs		
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.30	
2	0.75	0.30	

	3 ~~4 to 8~~	~~0.60~~ 0.65	~~Any~~ 0.30
	4 to 8	0.60	Any

Reason:	One of the most critical improvements to a renovated building's energy efficiency is high-efficiency fenestration. The renovations chapter makes improved fenestration mandatory in many scenarios, but cites values from an outdated Energy Star standard. Consistent with RECA's other proposals, we urge the Committee to adopt the superior fenestration requirements in the 2012 IECC. However, if the Committee determines that the 2009 IECC is the appropriate baseline, we recommend at least updating the mandatory fenestration efficiency requirements to the 2009 IECC to maintain consistency with the new construction requirements of the NGBS. For convenience, both options are outlined below. Recognizing that any of the recommended standards represent an improvement in energy efficiency, we have also added the flexibility of an area-weighted average – something not available in the 2008 NGBS fenestration requirements.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Remodeling practice under this section should be consistent with that for new construction (Chapter 7). Also, in favor of public comment PC216. PC216 includes a comprehensive set of revisions to Chapter 12.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC199 LogID 624 12.2 Green kitchen remodel *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	12.2.2 Newly applied interior architectural coatings, which are inside the water proofing envelope, ~~paint products~~ are in accordance with ~~one or more of the following standards:~~ ~~Zero VOC as determined by EPA Method 24 (VOC content below the detection limit for the method)~~ ~~CARB *Suggested Control Measure for Architectural Coatings*~~ ~~GS-11~~ ~~VOC limits in accordance with:~~ ~~(a) 50 grams/liter flat~~ ~~(b) 100 grams/liter non flat~~ ~~(c) 350 grams/liter clear wood varnish~~ ~~(d) 550 grams/liter clear wood lacquer~~ ~~CDPH 01350, as certified by a third party program such as the GREENGUARD Environmental Institute's *Children and Schools Certification Program* or the Scientific Certification Systems *Indoor Advantage Gold Program*~~
Reason:	The term "paint products" has been clarified. Also, the compliance standards in 12.2.2 are the same as section 901.9.1, so in order to reduce redundancy, they have been removed and reference made to 901.9.1. Is this section supposed to include a threshold for 85% like other similar sections?
Committee Action from Meeting:	**Reject**

Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC200 LogID 625 12.2 Green kitchen remodel *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	12.2.9 Interior low-VOC adhesives and sealants. All newly applied low-VOC adhesives and sealants ~~products~~ used within the interior of the building are in accordance with section 901.10.~~one of the following, as applicable.~~ ~~CDPH 01350, as certified by a third party program, such as the GREENGUARD Environmental Institute's *Children and Schools Certification Program* or the Scientific Certifications Systems *Indoor Advantage*~~ ~~*Gold Program.*~~ ~~GS-36~~
Reason:	Replace the ambiguous term "products" with what the product is. Make reference to section 901.10 instead of repeating the resource references. Is there supposed to be an 85% threshold requirement such as is in other similar sections?
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC201 LogID 702 12.2 Green kitchen remodel *Final Formal Action:* Reject

Submitter:	**Michael Cudahy, PPFA**
Public Comment:	~~12.2.9 Interior low-VOC adhesives and sealants. All newly applied products used within the interior of the building are in accordance with one of the following, as applicable.~~ ~~CDPH 01350, as certified by a third party program, such as the GREENGUARD Environmental Institute's Children and Schools Certification Program or the Scientific Certifications Systems Indoor Advantage Gold Program.~~ ~~GS-36~~ Replace section with language from 901.10 OR refer to section 901.10
Reason:	VOC sections in small renovations do not match VOC sections in new construction. This could become an issue. For consistency, please revise to match, or simply refer back to the relevant section.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC202 LogID 746 12.2 Green kitchen remodel *Final Formal Action:* Reject

Submitter:	**Susan Gitlin, US Environmental Protection Agency**
Public Comment:	.
Reason:	a) Section 12.2.12 states that all hazardous material that is removed or disturbed must be properly handled and disposed. This section should be further refined to note that this includes refrigerators and freezers, which contain hazardous materials subject to regulatory disposal requirements. b) Section 12.2.13 states that practice details for the disposal of an existing kitchen are to be determined. EPA suggests that the practice details specify that refrigerators and freezers be sent to a local recycling facility that handles the refrigerant, foam, hazardous materials and recyclables in accordance with the requirements of the RAD Program.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee	In favor of PC216. Section 12.1.605.0 of Draft #2 addresses disposal of hazardous materials. Disposal

Reason:	of appliances must comply with the applicable federal and local regulations. The suggested level of detail proposed by the public comment is too specific for this section of the Standard and would be more appropriate for commentary.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC203 LogID 770 12.2 Green kitchen remodel *Final Formal Action:* Reject

Submitter:	**Eric Lacey, RECA**
Public Comment:	**12.2.3 Fenestration.** Newly installed windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are NFRC-certified and in accordance with ~~ENERGY STAR, or equivalent, or~~ Table ~~701.4.4.1~~ 12.1.1.2(a), on an area-weighted average basis. Decorative fenestration elements with a maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice. **[Option 1: 2012 IECC]** **Table ~~701.4.4.1~~ 12.2.3** **Fenestration Specifications**

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	0.50	0.25
~~1 and~~ 2	~~0.65~~ 0.40	~~0.40~~ 0.25
3	~~0.40~~ 0.35	~~0.40~~ 0.25
~~4 to 8~~	~~0.35~~ 0.35	~~Any~~ 0.40
5 to 8	0.32	Any
	Skylights and TDDs	
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.25
2	0.65	0.25
3 ~~4 to 8~~	~~0.60~~ 0.55	~~Any~~ 0.25
4	0.55	0.40
5 to 8	0.55	Any

Mandatory

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

[Option 2: 2009 IECC]

	Table ~~701.4.4.1~~ 12.1.1.2(a) **Fenestration Specifications** Mandatory

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	1.20	0.30
~~1 and~~ 2	0.65	~~0.40~~ 0.30
3	~~0.40~~ 0.50	~~0.40~~ 0.30
4 to 8	0.35	Any
	Skylights and TDDs	
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.30
2	0.75	0.30
3 ~~4 to 8~~	~~0.60~~ 0.65	~~Any~~ 0.30
4 to 8	0.60	Any

Reason:	One of the most critical improvements to a renovated building's energy efficiency is high-efficiency fenestration. The renovations chapter makes improved fenestration mandatory in many scenarios, but cites values from an outdated Energy Star standard. Consistent with RECA's other proposals, we urge the Committee to adopt the superior fenestration requirements in the 2012 IECC. However, if the Committee determines that the 2009 IECC is the appropriate baseline, we recommend at least updating the mandatory fenestration efficiency requirements to the 2009 IECC to maintain consistency with the new construction requirements of the NGBS. For convenience, both options are outlined below. This proposal also maintains consistency with other fenestration requirements in the NGBS by requiring NFRC certification of the fenestration efficiency. This will ensure that the windows are objectively certified to meet the listed criteria and will simplify enforcement. Recognizing that any of the recommended standards represent an improvement in energy efficiency, we have also added the flexibility of an area-weighted average – something not available in the 2008 NGBS fenestration requirements.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Remodeling practice under this section should be consistent with that for new construction (Chapter 7). Also, in favor of public comment PC216. PC216 includes a comprehensive set of revisions to Chapter 12.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC204 LogID 828 12.2 Green kitchen remodel *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**

Public Comment:	Insert values at base code levels at a minumum.
Reason:	12.2.4 Insulation should be consistent with the base code as a minumum.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Not all kitchen remodels will involve opening walls to replace the insulation. Substantial energy, water, and material resource efficiency can be achieved without the removal of existing finishes that may be perfectly good and would only increase jobsite waste and consumption of virgin material. Also, in favor of PC216.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC205 LogID 626 12.3 Basement remodeling *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	12.3.13 Paint and Stain Newly applied interior ~~paint or stain products~~ architectural coatings or low-VOC adhesives and sealants are in accordance with sections 901.9.1 or 901.10, as applicable.~~one or more of the following standards~~: ~~Zero VOC as determined by EPA Method 24 (VOC content below the detection limit for the method)~~ ~~CARB Suggested Control Measure for Architectural Coatings~~ ~~GS-11~~ ~~VOC limits in accordance with:~~ ~~(a) 50 grams/liter flat~~ ~~(b) 100 grams/liter non flat~~ ~~(c) 350 grams/liter clear wood varnish~~ ~~(d) 550 grams/liter clear wood lacquer~~ ~~CDPH 01350, as certified by a third party program such as the GREENGUARD Environmental Institute's *Children and Schools Certification Program or the Scientific Certification Systems Indoor Advantage Gold Program*~~
Reason:	12.3.13 states that it applies to paints and sealants but the reference standards appear to apply only to paints. Revise by referring to the actual sections 901.9.1 and 901.10. The term "products" has been

	clarified. Is this section supposed to include a threshold for 85% like other similar sections?
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC206 LogID 747 12.3 Basement remodeling *Final Formal Action:* Reject

Submitter:	**Susan Gitlin, US Environmental Protection Agency**
Public Comment:	.
Reason:	Section 12.3.11: Appliances states that ENERGY STAR® appliances should be installed where available. In addition, to achieve maximum energy savings and environmental benefits, any old secondary refrigerators or freezers found in the basement should be disposed of properly.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC216. Section 12.1.605.0 of Draft #2 addresses disposal of hazardous materials. Disposal of appliances must comply with the applicable federal and local regulations.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC207 LogID 756 12.3 Basement remodeling *Final Formal Action:* Reject

Submitter:	**Jamie Hager, Southern Energy Management**

Public Comment:	Offer an alternative to mold-resistant drywall since mold is a moisture issue more than a material issue. As an alternative, allow projects to provide at minimum a moisture management plan that includes a humidistat and dehumidification strategy if the basement space is unconditioned and there are no moisture issues due to site grading.
Reason:	12.3.7 regarding mold resistant sheetrock -- does this apply to interior and exterior walls? Since mold is a moisture problem, an alternative humidity managment system should be allowed instead of mold resistant drywall
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC216. Refer to new Section 12.4.1 in Draft #2.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC208 LogID 829 12.3 Basement remodeling *Final Formal Action:* Reject

Submitter:	**Amy Schmidt, The Dow Chemical Company**
Public Comment:	Insert base code values at a minumum.
Reason:	12.3.6 insulation should be installed at base code values at a minumum.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	These are mandatory provisions. Not all basement remodels will involve construction of new walls or opening walls to replace the insulation. Substantial energy, water, and material resource efficiency can be achieved without the removal of existing finishes that may be perfectly good and would only increase jobsite waste and consumption of virgin material. Also, in favor of PC216.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC209 LogID 637 12.4 Small addition *Final Formal Action:* Reject

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	~~12.4.2.5 Construction waste management plan: A construction waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of construction and land-clearing waste. The construction waste management plan includes information on the proper handling and disposal of hazardous wastes~~ ~~12.4.2.6 Hazardous waste: All waste classified as hazardous waste is properly handled and disposed of.~~
Reason:	Sections 11.603, 11.605, 12.1.1.1(b), 12.4.2.5 should all be removed or the specific requirements removed and they all make a general reference back to waste diversion requirements in chapter 6. The conflicts between sections are confusing and make it seem as though the sections have been written by different authors that have not shared information. For example, 12.1 is the first place where demolition waste diversion is addresses, but why should only bathroom remodels have the opportunity to recycle or salvage, when that could be applied to any project. Please coordinate and clarify these sections.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC210 LogID 703 12.4 Small addition *Final Formal Action:* Reject

Submitter:	**Michael Cudahy, PPFA**
Public Comment:	~~12.4.4.6 Adhesives and sealant when building is occupied (per 901.9)~~ ~~Adhesives and sealants. When the building is occupied during the construction of the addition, a minimum~~ ~~of 85 percent of site-applied adhesives and sealants are in accordance with Section 901.9.1 and/or Section~~ ~~901.9.2.~~ ~~901.9.1 Exterior low-VOC adhesives and sealants: A minimum of 85 percent of site-applied products used for~~ ~~the installation of subfloors and on the exterior of the project are in accordance with one of the following:~~ ~~(1) The California Air Resources Board consumer products regulation as follows:~~

	~~(a) Construction Adhesives: VOC content not to exceed 7 percent by weight or 75 grams/liter, whichever is greater.~~ ~~(b) The VOC content of reactive sealants (i.e., silicones, polyurethanes, and hybrids, such as MS Polymer and silylated polyurethane resin or SPUR) not to exceed 4 percent by weight or 50 grams/liter, whichever is greater.~~ ~~(c) The VOC content of all other caulks and sealants not to exceed 2 percent by weight or 30 grams/liter, whichever is greater.~~ ~~(d) The VOC content of contact adhesives not to exceed 55 percent by weight or 480 grams/liter, whichever is greater.~~ ~~(2) GS-36~~ Replace section with language from 901.10 OR refer to section 901.10
Reason:	VOC sections in small renovations do not match VOC sections in new construction. This could become an issue. For consistency, please revise to match, or simply refer back to the relevant section.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. It is the consensus committee's intent for Chapter 12 to provide a self-contained set of remodeling provisions without referencing back to the provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC211 LogID 771 12.4 Small addition *Final Formal Action:* Reject

Submitter:	**Eric Lacey, RECA**
Public Comment:	**12.4.3.4 Fenestration (per ~~701.4.4.1~~ 703.1.6).** NFRC-certified U-factor and SHGC windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with ~~ENERGY STAR, or equivalent, or~~ Table ~~701.4.4.1~~ 12.4.3.4, on an area-weighted average basis. Decorative fenestration elements with a maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice. **[Option 1: 2012 IECC]** **Table ~~701.4.4.1~~ 12.4.3.4** **Fenestration Specifications**

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	

1	0.50	0.25	
~~1 and~~ 2	~~0.65~~ 0.40	~~0.40~~ 0.25	
3	~~0.40~~ 0.35	~~0.40~~ 0.25	Mandatory
~~4 to 8~~	~~0.35~~ 0.35	~~Any~~ 0.40	
5 to 8	0.32	Any	
	Skylights and TDDs		
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.25	
2	0.65	0.25	
3 ~~4 to 8~~	~~0.60~~ 0.55	~~Any~~ 0.25	
4	0.55	0.40	
5 to 8	0.55	Any	

[1] Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

[Option 2: 2009 IECC]

Table ~~701.4.4.1~~ 12.4.3.4
Fenestration Specifications

Climate Zones	U-Factor	SHGC	
	Windows and Exterior Doors (maximum certified ratings)		
1	1.20	0.30	
~~1 and~~ 2	0.65	~~0.40~~ 0.30	
3	~~0.40~~ 0.50	~~0.40~~ 0.30	Mandatory
4 to 8	0.35	Any	
	Skylights and TDDs		
1 ~~to 3~~	~~0.75~~ 0.75	~~0.40~~ 0.30	
2	0.75	0.30	
3 ~~4 to 8~~	~~0.60~~ 0.65	~~Any~~ 0.30	
4 to 8	0.60	Any	

Reason:	One of the most critical improvements to a green building project is highly-efficient fenestration. The small additions chapter makes improved fenestration mandatory in many scenarios, but cites values from an outdated Energy Star standard. Consistent with RECA's other proposals, we urge the Committee to adopt the superior fenestration requirements in the 2012 IECC. However, if the Committee determines that the 2009 IECC is the appropriate baseline, we recommend at least updating the mandatory fenestration efficiency requirements to the 2009 IECC to maintain consistency with the new construction requirements of the NGBS. For convenience, both options are outlined below. This proposal also maintains consistency with other fenestration requirements in the NGBS by requiring NFRC certification of the fenestration efficiency. This will ensure that the windows are objectively certified to meet the listed criteria and will simplify enforcement. Recognizing that any of the recommended standards represent an improvement in energy efficiency, we have also added the flexibility of an area-weighted average – something not available in the 2008 NGBS fenestration requirements.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Remodeling practice under this section should be consistent with that for new construction (Chapter 7). Also, in favor of public comment PC216. PC216 includes a comprehensive set of revisions to Chapter 12.

Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC212 LogID 788 12.4 Small addition *Final Formal Action:* Reject

Submitter:	**Gregg Achman, Hearth & Home Technologies**
Public Comment:	12.4.4.2 Fireplaces, etc (per 901.2.1) <u>Wood-burning</u> Fireplaces and natural draft<u>ing gas fireplaces and direct heating equipment</u> ~~fuel-burning appliances~~ are code compliant, vented to the outdoors, and have adequate combustion and ventilation air provided to minimize spillage or back-drafting~~, in accordance with the following, as applicable.~~ <u>Wood burning fireplaces must have a means of sealing the flue to minimize interior air (heat) loss when not in operation.</u>
Reason:	Section 12.4.4.2 Fireplaces etc.. should be the same as 11.901.2 and all other requirements deleted. See my comments on 11.901.2.1.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction. Remodeling practice under this section is intended to be consistent with that for new construction (Chapter 9).
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC213 LogID 654 Other for Chapter 12 (include section number and title below) *Final Formal Action:* Reject

Submitter:	**Naveen Berry, SCAQMD**

Public Comment:	Section 12.3.13 Paint and Stain, Non-Flat – ~~100~~ 50 Clear Wood Varnish – ~~350~~ 275 Clear Wood Lacquer – ~~550~~ 275
Reason:	Disagree with various VOC content limits for architectural coating categories. SCAQMD's Rule 1113 Architectural Coatings was recently amended on June 3, 2011. The following changes should be made to reflect the current R1113 VOC limits.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. Chapter 12 has been correlated with the respective provisions for new construction. Remodeling practice under this section is intended to be consistent with that for new construction (Chapter 9).
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC214 LogID 655 Other for Chapter 12 (include section number and title below)

Final Formal Action: **Reject**

Submitter:	**Naveen Berry, SCAQMD**
Public Comment:	Section 12.4.4.6 Architectural Coatings when building is occupied, Non-Flat – ~~100~~ 50 Clear Wood Varnish – ~~350~~ 275 Clear Wood Lacquer – ~~550~~ 275
Reason:	Disagree with various VOC content limits for architectural coating categories. SCAQMD's Rule 1113 Architectural Coatings was recently amended on June 3, 2011. The following changes should be made to reflect the current R1113 VOC limits.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. Chapter 12 has been correlated with the respective provisions for new construction. Remodeling practice under this section is intended to be consistent with that for new construction (Chapter 9).
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt**

	Clark; Ron Burton)
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC215 LogID 691 Other for Chapter 12 (include section number and title below)
Final Formal Action: **Withdrawn**

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	Task Group 7 is working on a revised version that I believe will address my concerns. That version should be subsititued for the current Chapter 12.
Reason:	The small project remodeling requirements are not complete. Although the intent was to have some mandatory proactices and require a percentage of optional practices, some project types do not have any optional practices and others have too few to make it worthwhile.
Committee Action from Meeting:	**Withdrawn**
Modification of Public Comment:	
Committee Reason:	Withdrawn by proponent at the Consensus Committee meeting in Washington, DC on February 23, 2012.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC216 LogID 758 Other for Chapter 12 (include section number and title below)
Final Formal Action: **Accept as Modified**

Submitter:	**Paul Sullivan (on behalf of Task Group 7), The Sullivan Company, Inc.**
Public Comment:	*Staff note: See Chapter 12 (in its entirety) of Draft #2 for the content of the public comment.*
Reason:	Comprehensive review of Chapter 12 by Task Group 7 chairs and NAHB Research has resulted ina new Chapter 12. Previous Chapter 12 was accepted with the understanding that addiitonal work would take place once the other task groups finished their revisions.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Staff note: All revisions approved by the consensus committee are shown in Chapter 12 of Draft #2 in track changes inlcuding Chapter 12 updates based on the approved public comments for the respective sections in Chapters 6, 7, 8, and 9 as applicable.*
Committee Reason:	Revisions to individual practices to clarify the intent and implementation of the remodeling provisions of Chapter 12. Coordination of Chapter 12 with the approved changes to Chapters 6, 7, 8, and 9.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	***Section Number:*** 12.1(A).603.1 Reused and Salvaged materials ***Full Name:*** Susan Gitlin , US Environmental Protection Agency ***Requested Action:*** Revise as follows ***Suggested Changes:*** Revise the language as follows: "Reclaimed and/or salvaged materials and components that have been managed in compliance with local, state and federal laws are used in the remodel in consistency with the requirements of local building codes." ***Reason:*** Reuse is a high-priority for material management, but materials have to be reused in safe and protective manner. One caution is that potentially harmful materials that had historically circulated in the construction and maintenance of buildings could be reintroduced into the building stock. Another concern is that depending on the application, the structural and energy-efficiency performance of certain recovered materials may not meet the requirements of building codes.
	Section Number: 12.1(A).611.2 Sustainable products ***Full Name:*** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions ***Requested Action:*** Revise as follows ***Suggested Changes*** **Reduce total points to 6, Reduce all subcategories to 2 each.** ***Reason:*** Same comment as 611.2. Reason: placing requirements on products where there is only one standard performed, in many instances by one laboratory or accreditation entity severely limits builders material choices
	Section Number: 12.1.605.0 Hazardous materials and waste ***Full Name:*** Susan Gitlin, US Environmental Protection Agency ***Requested Action:*** Revise as follows ***Suggested Changes:*** **12.1.605.05 Hazardous materials and waste.** All hazardous materials exposed during the remodel are removed AND all federal, state and local regulations regarding handling and safe management of these materials and waste are complied with. ***Reason:*** Not only the disposal of hazardous material, but the act of removal and any management beyond it, carry regulatory implications. The use of "OR" is confusing, and this requirement should be reworded.
	Section Number: 12.1.701.4.3.3 Fenestration air leakage ***Full Name:*** Thomas Culp, Birch Point Consulting LLC, Aluminum Extruders Council ***Requested Action:*** Revise as follows ***Suggested Changes:*** Insert new mandatory section after 12.1.701.4.3.3 Fenestration air leakage: **12.1.701.4.3.4 Storm Windows.** Newly installed storm windows or panels over existing glazing shall contain a low-emissivity coating. Installation maybe either on the inside or outside of the existing glazing. ***Reason:*** Ensure storm windows / panels include low-e. Low-e storm windows / panels are now readily available, where additional energy savings are provided by the use of a low-e coating rather than just clear uncoated glass. DOE, LBNL, and private industry have been

		promoting this as a cost effective tool for improving window energy performance, both from an insulating and air sealing viewpoint. This proposal does not require that low-e panels be installed on all existing windows (although that could be considered for points), but just ensures that when a storm window / panel is installed, that it at least use low-e glass. It is easily shown that the additional cost for the low-e coating is economically justified. Using a scalar ratio analysis for an apartment building with an overly conservative high incremental cost of $2.50 per ft2, the assumed scalar ratio only need be 7.4 or higher to be cost effective, which corresponds to an economic lifetime of only 12 years. These products are designed for a minimum of 20 years, easily surpassing this criteria. At more realistic incremental cost, the simple payback is between 4-5 years.
	Section Number:	12.1.901.11 Insulation
	Full Name:	Amy Schmidt, The Dow Chemical Company, Dow Building Solutions
	Requested Action:	Revise as follows
	Suggested Changes:	Reduce category to 2 points.
	Reason:	Same as 901.11. Reason: placing requirements on products where there is only one standard performed, in many instances by one laboratory or accreditation entity severely limits builders material choices

PC217 LogID 831 Other for Chapter 12 (include section number and title below)

Final Formal Action: **Reject**

Submitter:	**Craig Conner, Building Quality**
Public Comment:	Neither remodeling nor small renovations is not ready for review. It is a mistake to include these in a standard. Another public review is required when the draft of these sections is completed.
Reason:	The renovations section needs to be completed before it can get a realistic review. It should not go out with the rest of the standard. A few examples follow. 11.502.1 A knowledgeable team is established and team member roles are identified with respectto green lot design, preparation, and re-development. The project's green goals and objectives are written into a mission statement. ---What is a knowledgeable team? 11.505.2 (2) Light-colored hardscaping: Horizontal hardscaping materials are installed with a solar reflectance index of 29 or greater. ---SRI is an inappropriate measure of thermally massive materials like hardscape. Suggest reflectivity of 0.30 as appropriate. 11.610.1 Manufacturer's environmental management system concepts. Product manufacturer's operations and business practices include environmental management system concepts, and the production facility is certified to ISO 14001 or equivalent. The aggregate value of building products from certified ISO 14001 or equivalent production facilities is 1 percent or more of the estimated total building materials cost. (1 point awarded per percent.) ---This is trivial. It would be difficult not to meet this. 11.701.4.1.2 HVAC Systems TG 7 will need to see what the task group on this section changes in order to complete this. ---This is clearly not done. 11.902.1 (2)Clothes dryers are vented to the outdoors. ---So is the intention to ban condensing dryers, which are permited by code? This is not ready. 12.1.1.1 (a) Recycled content. Building materials with recycled content are used for two minor or major components of the renovation. ---Any amount of recycled content? For many types of materials it would be hard not to meet this requirement. For example anything with steel in it would pass? ---When windows or equipment is replaced, the same effiency requirements as in the energy chapter should apply. 12.1.1.6 Home Owner Education 12.1.1.6 (a) Building owners/occupants are familiarized with the green building goals and strategies implemented during the renovation and the impacts of the occupants' practices on the costs of operating the building. Training is provided to the responsible party(ies) regarding all equipment operation and control systems in the bathroom. ---This is vague and/or trivial. This says you train them in how to operate the bathroom? What are the control systems in the bathroom? 12.1.2.1(b) Recycled content. Building materials with recycled content are used in the renovation meeting one of the criteria in Table 12.1.2.1(a). These materials are in excess of those required to meet 12.1.1.1(e). Table 12.1.2.1(a) ---The goals in this table are trivial. 12.2.4 All gutted or

	newly constructed exterior walls and exterior ceilings must be insulated to a minimum R- value for the climate zone per table: “Can we insert values based on current code?” Minimum R-value Table has no values. ---This is clearly not ready for review. 12.2.11 A garbage disposal must be installed in the kitchen sink unless local regulations prohibit installation. ---Why would a green code require this? 12.2.12 All hazardous material that is removed or disturbed must be properly handled and disposed. 12.2.13 Lighting – practice details TBD 12.2.13 Disposal of Existing Kitchen – practice details TBD 12.2.14 Water Usage – practice details TBD ---Again not ready. The renovations section needs to be completed before it can get a realistic review. It should not go out with the rest of the standard. 11.502.1 A knowledgeable team is established and team member roles are identified with respectto green lot design, preparation, and re-development. The project’s green goals and objectives are written into a mission statement. ---What is a knowledgeable team? 11.505.2 (2) Light-colored hardscaping: Horizontal hardscaping materials are installed with a solar reflectance index of 29 or greater. ---SRI is an inappropriate measure of thermally massive materials like hardscape. Suggest reflectivity of 0.30 as appropriate. 11.610.1 Manufacturer’s environmental management system concepts. Product manufacturer’s operations and business practices include environmental management system concepts, and the production facility is certified to ISO 14001 or equivalent. The aggregate value of building products from certified ISO 14001 or equivalent production facilities is 1 percent or more of the estimated total building materials cost. (1 point awarded per percent.) ---This is trivial. It would be difficult not to meet this. 11.701.4.1.2 HVAC Systems TG 7 will need to see what the task group on this section changes in order to complete this. ---This is clearly not done. 11.902.1 (2)Clothes dryers are vented to the outdoors. ---So is the intention to ban condensing dryers, which are permited by code? This is not ready. 12.1.1.1 (a) Recycled content. Building materials with recycled content are used for two minor or major components of the renovation. ---Any amount of recycled content? For many types of materials it would be hard not to meet this requirement. For example anything with steel in it would pass? ---When windows or equipment is replaced, the same effiency requirements as in the energy chapter should apply. 12.1.1.6 Home Owner Education 12.1.1.6 (a) Building owners/occupants are familiarized with the green building goals and strategies implemented during the renovation and the impacts of the occupants’ practices on the costs of operating the building. Training is provided to the responsible party(ies) regarding all equipment operation and control systems in the bathroom. ---This is vague and/or trivial. This says you train them in how to operate the bathroom? What are the control systems in the bathroom? 12.1.2.1(b) Recycled content. Building materials with recycled content are used in the renovation meeting one of the criteria in Table 12.1.2.1(a). These materials are in excess of those required to meet 12.1.1.1(e). Table 12.1.2.1(a) ---The goals in this table are trivial. 12.2.4 All gutted or newly constructed exterior walls and exterior ceilings must be insulated to a minimum R- value for the climate zone per table: “Can we insert values based on current code?” Minimum R-value Table has no values. ---This is clearly not ready for review. 12.2.11 A garbage disposal must be installed in the kitchen sink unless local regulations prohibit installation. ---Why would a green code require this? 12.2.12 All hazardous material that is removed or disturbed must be properly handled and disposed. 12.2.13 Lighting – practice details TBD 12.2.13 Disposal of Existing Kitchen – practice details TBD 12.2.14 Water Usage – practice details TBD ---Again not ready.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	In favor of PC 216. In response to review of the public comment draft, Chapter 12 has been revised as shown in Draft #2. Chapter 12 has also been correlated with the respective provisions for new construction.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	

Ballot Comment(s) for Abstain:	

Submitter:	**Eric Lacey, RECA**
Public Comment:	Chapter 13 Referenced Documents

IBC	~~2006~~ 2012	International Building Code	202, 602.3.1, 602.9, 602.10, 703.1.1, 901.2.1(2)(e), 1001.1(10)
IECC	~~2004~~ 2012	International Energy Conservation Code	B201.1
IECC	~~2006~~ 2012	International Energy Conservation Code	701.1.1, 702.2, 703.1.1
IMC	~~2006~~ 2012	International Mechanical Code	701.4.2.1, 704.6.1(1)
IPC	~~2006~~ 2012	International Plumbing Code	903.5.3
IRC	~~2006~~ 2012	International Residential Code	202, 3035.1, 601.1, 602.3.1, 602.9, 602.10, 701.4.2.1, 703.1.1, 704.6.1(1), 802.1, 902.3, 903.2.1(3), 1001.1(10)

Reason:	As a part of the 2012 family of International Codes, the National Green Building Standard should reference only the latest versions of the International Codes wherever possible. Because the all 2012 International Codes are currently available, and because a number of states are already beginning the process of adopting the 2012 International Codes, the updated NGBS should reference the 2012 versions.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Based on the action on items PC096 and PC097.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC219 LogID 787 1302 Referenced Documents *Final Formal Action:* Reject

Submitter:	**Bridget Herring, Mathis Consulting Company**
Public Comment:	

IBC	~~2009~~2012	International Building Code	
IECC	2004	International Energy Conservation Code	
IECC	~~2009~~2012	International Energy Conservation Code	
IMC	~~2009~~2012	International Mechanical Code	
IPC	~~2009~~2012	International Plumbing Code	
IRC	~~2009~~2012	International Residential Code	

Reason:	Green standards are universally understood and expected to be above code programs. Failure to reference the current minimum code is misleading and unacceptable.
Committee Action from Meeting:	**Reject**
Modification of Public Comment:	
Committee Reason:	Based on the action on items PC096 and PC097.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC220 LogID TG1-2 Section 202 Definitions, Section 306 Accessory Structures, Appendix E *Final Formal Action:* Accept as Modified

Submitter:	**Robert Hill, NAHB Research Center**
Public Comment:	*Add the following provisions to the Standard:* **DEFINITIONS** **Accessory Structure**. A structure, the use of which is customarily accessory to and incidental to that of the residential building; the structure is located on the same lot or site as the residential building; the structure does not contain a dwelling; and (1) is classified as Group U – Utility and Miscellaneous in accordance with the International Building Code; or (2) is classified as accessory to the residential use

by a determination of the Adopting Entity.

306 - ACCESSORY STRUCTURES

306.1 Applicability. The designation criteria for accessory structures shall be in accordance with Appendix E**.**

306.2 Compliance. Compliance with Appendix E shall be either mandatory or voluntary in accordance with this section.

306.2.1 Mandatory Compliance. If the Adopting Entity adopts Appendix E, it shall establish rules for compliance with Appendix E.

306.2.2 Voluntary Compliance. The voluntary use of Appendix E for accessory structures is permitted.

Appendix E – Accessory Structures

E101.1 Applicability of Appendix A. Appendix E is part of this Standard.

E101.2 Scope. The provisions contained in Appendix E provide the criteria necessary for complying with Section 306 for accessory structures. Accessory structures are to be in accordance with the applicable criteria of Appendix E. Text identified as "User Note" is not considered part of this Standard.

E201 Conforming. Accessory structures that meet all applicable requirements of this Appendix shall be designated as *conforming*. The *conforming* designation for the accessory structure is complementary to the rating achieved by the residential buildings located on the same site or lot. Where residential buildings located on the same lot have not achieved a rating in accordance with this Standard, the accessory structures shall not be eligible for designation under this Appendix. Each accessory structure shall seek a separate designation of *conforming* based on the rules established by the Adopting Entity in accordance with Section E102. The residential building shall not receive points for any practices implemented only for the accessory structure.

E202 Conformance Criteria. Accessory structures shall implement practices from Chapters 5 through 10 in accordance with Sections E202.1 through E202.7.

E202.1 The practices that are mandatory for the residential building on the same site or lot shall be also mandatory for the accessory structure unless these practices are exempt under Sections E202.5 or E202.7.

E202.2 All land development practices associated with construction of the accessory structure shall comply with the land development practices for the residential building located on the same lot.

E202.3 For the accessory structures that use the same basic construction and mechanical systems as the residential buildings located on the same site or lot, the design and construction of the accessory structures shall meet the practices or the intent of the practices implemented to achieve compliance for the residential building located on the same site or lot.

E202.4 For the accessory structures that use basic construction or mechanical systems that are different from the residential buildings located on the same site or lot, the design and construction of the accessory structures shall meet the intent of the practice implemented to achieve compliance for the residential building located on the same site or lot.

E202.5 Where the residential buildings located on the same site or lot include construction

	methods or systems that do not have functionally equivalent counterparts as part of the accessory structure, the accessory structure does not need to comply with any of the practices implemented with regard to such construction methods or systems. *User note: Examples of the practices that may be exempt from implementation in accessory structures include, but not limited to:* 1) *Section 601.5 Prefabricated Components – accessory structure is not required to be modular if the residential building in modular.* 2) *Section 601.6 Stacked Stories – accessory structures is not required to have more than one story if the residential building is more than one story.* 3) *Section 602.2 Roof surfaces – if the residential building has a landscaped roof, the accessory structure is not required to have a landscaped roof.* 4) *Chapter 7 Energy efficiency – accessory structure is not required to comply with Chapter 7 unless it includes conditioned space.* **E202.6** Where the accessory structure includes construction methods or systems that do not have functionally equivalent counterparts as part of the residential buildings located on the same site or lot, the Adopting Entity shall review such construction methods and systems and shall establish an approach for meeting the overall intent of the Standard with regard to the minimum acceptable threshold. **E202.7** Where the use of the accessory structure has an effect of the functionality of the specific practice, such practices may be exempt by the Adopting Entity. *User note: Examples of the practices that may be exempt from implementation in accessory structures include, but not limited to:* *Section 602.1.14 Ice barrier – if the accessory structure does not contain conditioned space,* *ice barrier is not required.*
Reason:	In an effort to coordinate ICC-700 and IgCC, an expansion of scope of ICC-700 has been approved by the Executive Standards Committee of the NAHB Research Center to include structures accessory to residential use. The revised scope will allow adopting entities and jurisdictions to adopt both documents with a clear delineation of mandate over accessory structures. This scope revision is posted as a separate item on the NGBS website at www.nahbrc.com/ngbs. In support of this scope revision, new provisions for accessory structures are proposed as shown below. The new provisions include a definition of accessory structure, charging language in Chapter 3, and a new Appendix E summarizing criteria for accessory structures. The charging language of Chapter 3 allows the Adopting Entity to select mandatory or voluntary use of Appendix E. A single level of designation is available for accessory structures. The designation is available only if the residential building located on the same site or lot achieves a rating under ICC-700. The conformance criteria for the accessory structure are based on the design and construction methods used for the residential building. The criteria are located in an appendix to allow for voluntary use.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Revise public comment as follows (in red):* **DEFINITIONS** **Accessory Structure**. A structure, the use of which is customarily accessory to and incidental to that of the residential building; the structure is located on the same lot or site as the residential building; the structure does not contain a dwelling; and (1) is classified as Group U – Utility and Miscellaneous in accordance with the International Building Code, or (2) is classified as accessory in accordance with the International Residential Code, or (~~2~~3) is classified as accessory to the residential use by a

determination of the Adopting Entity.

306 - ACCESSORY STRUCTURES

306.1 Applicability. The designation criteria for accessory structures shall be in accordance with Appendix E.

306.2 Compliance. Compliance with Appendix E shall be voluntary unless specifically adopted as mandatory ~~either mandatory or voluntary in accordance with this section~~. If specifically adopted, the adopting entity shall establish rules for compliance with Appendix E.

~~**306.2.1 Mandatory Compliance.** If the Adopting Entity adopts Appendix E, it shall establish rules for compliance with Appendix E.~~

~~**306.2.2 Voluntary Compliance.** The voluntary use of Appendix E for accessory structures is permitted.~~

Appendix E – Accessory Structures

E101.1 Applicability of Appendix ~~A~~E. Appendix E is part of this Standard.

E101.2 Scope. The provisions contained in Appendix E provide the criteria necessary for complying with Section 306 for accessory structures. ~~Accessory structures are to be in accordance with the applicable criteria of Appendix E.~~ Text identified as "User Note" is not considered part of this Standard.

E201 Conforming. Accessory structures that meet all applicable requirements of this Appendix shall be designated as *conforming*. The *conforming* designation for the accessory structure is ~~complementary~~separate ~~to~~from the rating achieved by the residential buildings located on the same site or lot. Where residential buildings located on the same lot have not achieved a rating in accordance with this Standard, the accessory structures shall not be eligible for designation under this Appendix. Each accessory structure shall seek a separate designation of *conforming* based on the rules established by the Adopting Entity in accordance with Section E~~1~~202. The residential building shall not receive points for any practices implemented only for the accessory structure.

E202 Conformance Criteria. Accessory structures shall implement practices from Chapters 5 through 10 in accordance with Sections E202.1 through E202.7.

E202.1 The practices that are mandatory for the residential building ~~on the same site or lot~~ shall ~~be~~ also be mandatory for the accessory structure unless these practices are exempt under Sections E202.5 or E202.7.

E202.2 All land development practices associated with construction of the accessory structure shall comply with the land development practices for the residential building located on the same lot.

E202.3 For the accessory structures that use the same basic construction and mechanical systems as the residential buildings ~~located on the same site or lot~~, the design and construction of the accessory structures shall meet the practices or the intent of the practices implemented to achieve compliance for the residential building located on the same site or lot.

E202.4 For the accessory structures that use basic construction or mechanical systems that are different from the residential buildings ~~located on the same site or lot~~, the design and construction of the accessory structures shall meet the intent of the practice implemented to achieve compliance for the residential building located on the same site or lot.

	E202.5 Where the residential buildings located on the same site or lot include construction methods or systems that do not have functionally equivalent counterparts as part of the accessory structure, the accessory structure does not need to comply with any of the practices implemented with regard to such construction methods or systems. *User note: Examples of the practices that may be exempt from implementation in accessory structures include, but not limited to:* *1) Section 601.1 Conditioned floor area.* *~~1~~2) Section 601.5 Prefabricated Components – accessory structure is not required to be modular if the residential building is~~n~~ modular.* *~~2~~3) Section 601.6 Stacked Stories – accessory structures ~~is~~are not required to have more than one story if the residential building is more than one story.* *~~3~~4) Section 602.2 Roof surfaces – if the residential building has a landscaped roof, the accessory structure is not required to have a landscaped roof.* *~~4~~5) Chapter 7 Energy efficiency – unconditioned spaces in the accessory structure ~~is~~are not required to comply with Chapter 7 unless it includes conditioned space.* *6) Section 902.3 Radon Control except for habitable space.* **E202.6** Where the accessory structure includes construction methods or systems that do not have functionally equivalent counterparts as part of the residential buildings located on the same site or lot, the Adopting Entity shall review such construction methods and systems and shall establish an approach for meeting the overall intent of the Standard with regard to the minimum acceptable threshold. **E202.7** Where the use of the accessory structure has an effect of the functionality of the specific practice, such practices may be exempted by the Adopting Entity. *User note: Examples of the practices that may be exempted from implementation in accessory structures include, but not limited to:* *Section 602.1.14 Ice barrier – if the accessory structure does not contain conditioned space,* *ice barrier is not required.*
Committee Reason:	Clarifications and simplifications. The option of classification as accessory based on IRC is added. The references to lot and site are included in the definition and therefore removed from the provisions of Appendix E.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC221 LogID TG-1 Chapter 3 Points *Final Formal Action:* Accept as Modified

Submitter:	**Matt Dobson (Task Group 1 Chair), Vinyl Siding Institute**

Public Comment:

Table 303

Threshold Point Ratings for Green Buildings

Green Building Categories			Rating Level Points (1) (2)			
			BRONZE	SILVER	GOLD	EMERALD
1.	Chapter 5	Lot Design, Preparation, and Development	~~39~~50	~~66~~64	93	~~119~~121
2.	Chapter 6	Resource Efficiency	~~45~~43	~~79~~59	~~113~~89	~~146~~119
3.	Chapter 7	Energy Efficiency	30	60	~~100~~80	~~120~~100
4.	Chapter 8	Water Efficiency	~~14~~19	~~26~~39	~~41~~67	~~60~~97
5.	Chapter 9	Indoor Environmental Quality	~~36~~25	~~65~~42	~~100~~69	~~140~~97
6.	Chapter 10	Operation, Maintenance, and Building Owner Education	8	10	11	12
7.		Additional Points from any category	50	100	100	100
		Total Points:	~~222~~226	~~406~~374	~~558~~509	~~697~~647

Reason: Updated rating thresholds based on Task Groups' reviews of the assigned chapters.

Committee Action from Meeting: **Accept as Modified**

Modification of Public Comment: *Revise public comment as follows (in red):*

Table 303

Threshold Point Ratings for Green Buildings

Green Building Categories			Rating Level Points (1) (2)			
			BRONZE	SILVER	GOLD	EMERALD
1.	Chapter 5	Lot Design, Preparation, and Development	~~39~~50	~~66~~64	93	~~119~~121
2.	Chapter 6	Resource Efficiency	~~45~~43	~~79~~59	~~113~~89	~~146~~119
3.	Chapter 7	Energy Efficiency	30	60	~~100~~80	~~120~~100
4.	Chapter 8	Water Efficiency	~~14~~19~~25~~	~~26~~39	~~41~~67	~~60~~97~~92~~
5.	Chapter 9	Indoor Environmental Quality	~~36~~25	~~65~~42	~~100~~69	~~140~~97
6.	Chapter 10	Operation, Maintenance, and Building Owner Education	8	10	11	12
7.		Additional Points from any category	50	~~100~~75	100	100
		Total Points:	~~222~~226~~231~~	~~406~~374~~34~~9	~~558~~509	~~697~~647~~641~~

Committee Reason: Increase the Bronze threshold in Water efficiency to raise the bar at the entry level for the Standard.
Adjust the Emerald threshold in Water effiency to compensate for the reduction of available points in that chapter.
Adjust the number of additional points for the Silver level to provide for a more gradual transition from the Bronze to the Gold levels.

Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC222 LogID TG2-1 Chapter 4 Points *Final Formal Action:* Accept as Modified

Submitter:	**Bruce Boncke (on behalf of Task Group 2), BME Associates**
Public Comment:	All proposed updates to the point assignments for Chapter 4 are shown in Draft #2.
Reason:	Based on Task Group 2 review of the point assignments for Chapter 4 in accordance with the established process.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*The consensus committee made the following changes to the Task Group recommendations on points for Chapter 4 (in red).* **403.2 Building orientation.** A minimum of 75 percent of the building sites are designed with the longer dimension of the structure to face within 20 degrees of south. ~~6~~36 **405.10 Community garden(s).** A portion of the site is established as a community garden(s), available to residents of the site, to provide for local food production to residents or area consumers. ~~TBD~~63
Committee Reason:	Section 403.2: This practice should be encouraged because it can have a large impact on the design and loads on the building. Orientation is an important design consideration that enables future design and development options. Section 405.10:.While the consensus committee wants to encorage community gardens, 6 points is excessive relative to other practices in the chapter such as Open Space.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC223 LogID TG2-2 Chapter 5 Points *Final Formal Action:* Accept as Modified

Submitter:	**Bruce Boncke (on behalf of Task Group 2), BME Associates**

Public Comment:	All proposed updates to the point assignments for Chapter 5 are shown in Draft #2.
Reason:	Based on Task Group 2 review of the point assignments for Chapter 5 in accordance with the established process.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*The consensus committee made the following changes to the Task Group recommendations on points for Chapter 5 (in red).* **Section 505.2 Heat Island Mitigation** - *See Draft #2 and PC042 for revised points.* **505.5 Community Garden(s).** A portion of the lot is established as a community garden(s), available to residents of the lot, to provide for local food production to residents or area consumers. ~~**TBD**~~**63**
Committee Reason:	The revised points on Section 505.2 Heat Island Mitigation are based on committee's action on PC042 by Robert Hill. Section 505.5: While the consensus committee wants to encorage community gardens, 6 points is excessive relative to other practices in the chapter such as Open Space.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC224 LogID TG3-7 Chapter 6 Points *Final Formal Action:* Accept as Modified

Submitter:	**Randy Melvin (on behalf of Task Group 3), Winchester Homes**
Public Comment:	All proposed updates to the point assignments for Chapter 6 are shown in Draft #2.
Reason:	Based on Task Group 3 review of the point assignments for Chapter 6 in accordance with the established process.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*The consensus committee made the following changes to the Task Group recommendations on points for Chapter 6 (in red).* **611.2 Sustainable Products.** One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Certification third-party agency is ISO Guide 65 accredited. **4~~6~~9 Points Max**
Committee Reason:	The maximum points value is adjusted to accomodate the additional practices included in PC075.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s)	

for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	***Section Number:*** 611.2 Sustainable Products ***Full Name:*** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions ***Requested Action:*** Revise as follows ***Suggested Changes:*** **Reduce total points to 6, Reduce all subcategories to 2 each.** ***Reason:*** Reason: placing requirements on products where there is only one standard performed, in many instances by one laboratory or accreditation entity severely limits builders material choices.

PC225 LogID TG5-2 Chapter 7 Points *Committee Action:* Reject

Staff Note:

In accordance with the development procedures, Comment PC225 is being recorded as "Reject" as the ballot failed to achieve the required 2/3's affirmative vote to sustain the Committee Action of "Accept as Modified" taken at the February 2012 meeting. This is due to an identifiable part of Comment PC225 receiving negative public and ballot comments on the provision for allocating points for skylights and tubular daylighting devices (TDDs).

In an attempt to resolve these objections, a proposed revision is being issued for public comment and committee ballot. This revision, to the provision for allocating points for skylights and TDDs, was developed and approved by the Energy Efficiency Task Group (TG-5).

The documentation shown in this Public Comments Report on the consideration and Committee Action on Comment PC225 will be updated after the required action on the proposed revision is finalized.

Submitter:	**Michael Hodgson (on behalf of Task Group 5), Consol**
Public Comment:	All proposed updates to the point assignments for Chapter 7 are shown in Draft #2.
Reason:	Based on Task Group 5 review of the point assignments for Chapter 7 in accordance with the established process. The report summarizing the methodology used to develop point assignments for Chapter 7 based on estimated energy savings is available upon request.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*The consensus committee made the following changes to the Task Group recommendations on points for Chapter 7 (in red).* **701.4.3.2 Air sealing and insulation.** **Table 701.4.3.2(2)** **Air Barrier and Insulation Inspection Component Criteria**

COMPONENT	CRITERIA
Air barrier and thermal barrier	Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier.

	Breaks or joints in the air barrier are filled or repaired. Air-permeable insulation is not used as a sealing material. Air-permeable insulation is ~~inside of~~installed with an air barrier.

Revise Table 703.1.2 as follows:

Table 703.1.2
Insulation Installation Grades

Grade	POINTS
1	~~15~~7
2	~~10~~4

Revise Table 703.4.1(1) as follows:

Table 703.4.1(1)(a)
Gas Water Heating

Energy Factor	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
0.67 to <0.80	4	4	3	2	3	2	1	1
>=0.80	7	7	5	4	5	4	2	2

Add Table 703.4.1(1)(b) as follows:

Table 703.4.1(1)(b)
Gas Water Heating
Storage with input rate greater than 75,000 Btu/h or instantaneous input rate greater than 200,000 Btu/h

Thermal Efficiency	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
>=0.86	7	7	5	4	5	4	2	2

Revise Table 703.4.1(2) as follows:

Table 703.4.1(2)
Electric Water Heating

Energy Factor or Thermal Efficiency	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
>=0.95	2	2	2	1	1	1	1	1

Revise Table 703.4.1(4) as follows:

Table 703.4.1(4)
Heat Pump Water Heating

Energy Factor	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
1.5 to <2.0	14	11	11	11	11	4	4	4
2.0 to <2.2	19	16	16	15	15	6	6	6
>=2.2	20	17	17	17	16	6	6	6

Committee Reason:	Table 701.4.3.2(2): Clarification. Table 703.1.2: In consensus committee judgment, the points should be increased for Grades 1 and 2. Table 703.4.1(1)(a): Include points for Energy Factor of above 0.67 and below 0.80. Table 703.4.1(1)(b): Added for equipment that uses thermal efficiency metric. Table 703.4.1(2): Clarification. Table 703.4.1(4): Clarification.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 17** **Disapprove: 18** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Ted Williams:*** Discussion of the committee revealed that the rationale for point differentials for gas-fired water heaters are based on tenuous technical arguments and presumably associate with inlet water temperature difference. These water temperature differences are second order effects in gas-fired water heaters with different rated efficiencies and would not support the point differential magnitudes shown. Consensus in discussion of these computed point differentials was not achieved, nor was a complete understanding of how the point differentials were ultimately developed through the computations. This proposal should be returned to Committee for review of the proposed Tables 704.3.1(1)(a) and (b). Also, the points for HSPF 8.2 in Table 703.2.4 are awarded for the nationwide Federal minimum efficiency standard for air-source spilt system heat pumps promulgated by Direct Final Rule in 2011 and should not be allowed. This HSPF should be deleted from the points table. ***Charles Cottrell:*** Issue 1) NAIMA supports retaining the 15 points for grade 1 insulation and 10 points for grade 2 insulation. The quality of installation has a significant effect on the performance of all insulation materials and believes the 15/10 point levels are appropriate for incentivizing good installation quality. ***Staff Note:*** *All negatives votes listed below are related to the same issue: combining vertical fenestration and skylights into a single table for assignment of points. A total of 17 negative votes were submitted by committee members on this issue (more than 1/3+1). These negative votes have been submitted to TG-5 for review and a recommended resolution.* ***Michael Cudahy:*** It is inconsistent with the way requirements for skylights and TDD's are established in other codes and standards and more importantly, because it resulted in the unintended consequence of all but eliminating skylights and TDD's from points qualifications, the simplification of the tables should be reconsidered by the committee. ***Steven Rosenstock:*** A separate table/category for skylights and TDD's should be reinstated. All other tables/points are fine. ***Josh Jacobs:*** I do not believe that skylights and TDD's were meant to be merged with windows and exterior doors in the "Enhanced Fenestration Specifications" during the points assignment process ***Richard Bergman:*** The disapproval applies only to the simplification of Tables 703.1.6.2(a) and (b) because it is inconsistent with the way requirements for skylights and TDDs are established in other codes and standards. More importantly, because the change resulted in the untended consequence of all but elimintaing skylights and TDDs from point qualification, the simplification of the tables should be reconsidered by the committee.

Anthony Floyd: This disapproval is only on the simplification of Tables 703.1.6.2(a) & (b) because it is inconsistent with the way requirements for skylights and TDD's are established in other codes and standards. The simplification of the tables should be reconsidered by the committee in order to prevent the unintended consequence of all but eliminating skylights and TDD's from points qualifications.

Paula Cino: Negative vote applies only to Tables 703.1.6.2(a) and 703.1.6.2(b). During the points discussion, the enhanced fenestration tables were reformatted - merging "Skylights and TDDs" and "Windows and Exterior Doors". This had the unintended consequence of changing the technical requirements necessary to achieve points for skylights and TDDs. As proposed, the merged tables would require skylights and TDDs to meet the same performance metrics as vertical fenestration, which is technically infeasible. This also represents a departure from the treatment of skylights and TDDs in the IECC and other standards. Instead of the current tables, the original, separate tables for windows/exterior doors and skylights/TDDs should be restored.

Matthew Dobson: This negative is being submitted based on the format of Tables 703.1.6.2(a) and 703.1.6.2(b) It appears the credits for enhanced skylights and TDD's were removed accidently. I don't remember discussing the issue fully. The committee should restore a separate "Skylight and TDD's" category in the Enhanced Fenestration Specifications tables with the U-factors and SHGC values that were approved by the Energy TG and Committee as published in the initial draft standard in 2011.

Jeff Inks:
Note: This negative is being submitted only on the current format of Tables 703.1.6.2(a) and 703.1.6.2(b) (Enhanced Fenestration Specifications) specifically with respect to simplifying the enhanced fenestration points allocation by combing skylights and TDD's with windows and exterior doors.

Reason:

Over the course of developing the additional points tables for enhanced fenestration, "Skylights and TDD's" were merged with "Windows and Exterior Doors" to simplify the points tables which is problematic for several reasons, and while approved as part of the points process, it should have been discussed more fully. In particular it essentially eliminates the eligibility of enhanced performance skylights and TDD's from enhanced performance points in nearly all climate zones, including ENERGY STAR qualified products. We believe it is critical for the simplification of the tables to be reconsidered by the committee for the more specific reasons provided in bulleted comments below which is the intent of this negative.

The preferred resolution for committee consideration would be to restore the separate "Skylight and TDD's" category in the Enhanced Fenestration Specifications tables with the U-factors and SHGC values that were originally discussed and approved by the Energy TG and Committee as published in the initial draft standard last fall, and as shown as struck out (in Tables 703.1.6.2(a) & (b)) in the current public review draft (second draft). This is a clear straight forward resolution based on previous Committee and Energy TG actions and will improve the standard. More specific detail on the preferred resolution follows the bulleted reasons.

- By merging skylights and TDD's with windows and exterior doors in the enhanced fenestration tables, the technical requirements for them were changed. Skylights and TDD's are now required to meet the same U-factor and SHGC requirements established for windows and exteriors doors which is impractical and inconsistent with how U-factor and SHGC requirements are established and provided for skylights and TDD's versus windows and exterior doors in ENERGY STAR, ASHRAE 90.1, 90.2, 189.1 and the IECC.

- The need for the differences in requirements is based on the realistic understanding of the technical challenges and feasibility for sloped fenestration to meet the same requirements as vertical fenestration, particularly as fenestration requirements in general become more stringent. This however is balanced by the understanding of the unique beneficial (energy efficiency)

functions skylights and TDD's provide such as additional direct or top daylighting to offset the need for artificial lighting especially when provided in windowless rooms or spaces like hallways, the important passive solar heating benefit they provide especially in mid to northern climates, as well as other attributes such as ventilation. In addition, other factors are also taken into consideration for example unique installation characteristics such as curb mountings and the fact that when installed, skylights account for a very small percentage of the total roof area, generally 3% or less.

- Changing the technical requirements of building components was not the intent of the points allocation exercise or simplification of the enhanced fenestration points table. By simplifying the tables and changing the technical requirements for skylights and TDD's, the U-factors in nearly all cases and SHGC in some cases are set below what is reasonably achievable or practical for skylights and TDD's.

- Again, the simplification essentially eliminates the eligibility of enhanced performance skylights and TDD's from enhanced performance points in nearly all climate zones as well as the reasonable ability to take advantage of the energy efficiency benefits they provide. For instance, ENERGY STAR qualified or equivalent skylights and TDD's will be ineligible for additional points if the separate values are not reinstated, in turn discouraging or preventing their use when they can provide meaningful contributions to the energy efficiency of the home or building. In addition, requiring significantly lower SHGC's for skylights greatly diminishes the amount of the daylighting and passive solar heating they are also able to provide.

- The change in technical requirements is also inconsistent with the intent of Tables 703.1.6.2(a) & (b) which are intended to award points for ENERGY STAR qualified or equivalent fenestration products, including skylights and TDD's (Table 703.1.6.2(a)), and products that exceed ENERGY STAR requirements respectively (Table 703.1.6.2(b)). However, again, by simplifying the tables, ENERGY STAR qualified skylights and TDD's are now ineligible for additional points, and the U-factor and SHGC requirements that are applicable are unreasonable and unrealistic.

For these reasons, we respectfully urge the Committee's reconsideration of the Enhanced Fenestration Specification tables to reinstate the separate U-factor and SHGC values for skylights and TDD's.

Resolution consideration:

Reinstate separate U-factor and SHGC values for skylights and TDD's in Table 703.1.6.2(a) and (b) by adding a separate U-factor column and separate SHGC for "Skylights and TDD's", with the respective values that are shown as struck through in the current public review draft and originally approved.

Regarding points, based on discussions with Research Center staff with respect to this possible resolution, the existing proposed points allocation for each climate zone could remain the same without the need for additional modeling.

Proposed restored tables

Table 703.1.6.2(a)
Enhanced Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	POINTS
1	0.60	0.27	0.70	0.30	10
2	0.60	0.27	0.70	0.30	5
3	0.35	0.30	0.57	0.30	6
4	0.32	0.40	0.55	0.40	2
5	0.30	Any	0.55	Any	5
6	0.30	Any	0.55	Any	5

7	0.30	Any	0.55	Any	5
8	0.30	Any	0.55	Any	5

For Climate Zones 5-8 an equivalent energy performance is permitted based on either (1) windows with a U-factor = 0.31 and an SHGC ≥ 0.35, or, a U-factor = 0.32 and an SHGC ≥ 0.40 or (2) ~~windows~~ Fenestration meeting the ENERGY STAR Equivalent Energy Performance

Table 703.1.6.2(b)
Enhanced Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	POINTS
1	0.40	0.25	0.50	0.30	13
2	0.40	0.25	0.50	0.30	9
3	0.30	0.25	0.50	0.35	9
4	0.28	0.40	0.50	0.40	4
5	0.25	Any	0.50	Any	8
6	0.25	Any	0.50	Any	9
7	0.25	Any	0.50	Any	9
8	0.25	Any	0.50	Any	9

Charles Cottrell:
Issue 2) NAIMA opposes the combination of skylights and TDD requirements with windows and exterior doors and supports restoring the original tables with separate requirements as proposed by WDMA.

Dan Simon: Due to unintended issues with Skylights.

Bruce Boncke: TG Chair has asked for reconsideration to fix fenestration points.

Michael Hodgson: This negative vote on the Chapter 7 Points is only directed at the current format of Tables 703.1.6.2(a) and 703.1.6.2(b) - Enhanced Fenestration Specifications - specifically with respect to simplifying the enhanced fenestration points allocation by combining skylights and TDD's with windows and doors.
Resolution: Reinstate separate U-factor and SHGC values for skylights and TDD's in the mentioned tables by adding separate u-factor and SHGC columns for skylights and TDD's. Please refer to Jeff Inks submittal for values.

David Collins: I vote negative on the simplification of Tables 703.1.6.2(a) & (b) because it is inconsistent with the way requirements for skylights and TDD's are established.

Randall Melvin: Need to reinstate SEPARATE U factor and SHGC values for skylights and TDD's. Otherwise OK.

Ray Tonjes: The vote to disapprove is only on the simplification of Tables 703.1.6.2(a) & (b) because it is inconsistent with the way requirements for skylights and TDD's are established in other codes and standards and more importantly, because it resulted in the unintended consequence of all but eliminating skylights and TDD's from points qualifications, the simplification of the tables should be reconsidered by the committee.

Kenneth Bland: This negative is being submitted only on the current format of Tables 703.1.6.2(a) and 703.1.6.2(b) (Enhanced Fenestration Specifications) specifically with respect to simplifying the enhanced fenestration points allocation by combing skylights and TDD's with windows and exterior doors. It was not the intent of the Committee to strike these columns from the Standard. As a member of the Energy Task Group, I do not recall any discussion that would have resulted in a recommendation to remove the U-Factor and SHGC for Skylights and TDD's. Add two new columns to Table 703.1.6.2(a) U-Factor Skylights & TDD's 0.70 0.70 0.57 0.55 0.55 0.55 0.55 0.55 SHGC

	Skylights & TDD's 0.30 0.30 0.30 0.40 Any Any Any Any Add two new columns to Table 703.1.6.2(b) U-Factor Skylights & TDD's 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 SHGC Skylights & TDD's 0.30 0.30 0.35 0.40 Any Any Any Any ***Maribeth Rizzuto:*** This negative is only on the simplification of Tables 703.1.6.2(a) & (b) because it is inconsistent with the way requirements for skylights and TDD's are established in other codes and standards and more importantly, because it resulted in the unintended consequence of all but eliminating skylights and TDD's from points qualifications, the simplification of the tables should be reconsidered by the committee.
Ballot Comment(s) for Abstain:	
Public Comment(s):	***Section Number:*** 703.1.3 Mass Walls ***Full Name:*** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions ***Requested Action:*** Revise as follows ***Suggested Changes:*** Use previous table or rework points for new table. ***Reason:*** The points associated with the new table seem to be incorrect as they are completely counter to the points in the previous table. This should be reviewed.
	Section Number: 703.1.4 Radiant Barrier ***Full Name:*** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions ***Requested Action:*** Revise as follows ***Suggested Changes:*** If unable to delete this section at this time it is suggested that points be reduced. CZ1 - 2 points, CZ 2/3 - 1 point, CZ4-8 - 0 points. ***Reason:*** New information is available. Supporting documentation is being sent via e-mail. Due to a number of reasons EPA has disallowed the use of radiant barrier products in the EnergyStar program. They state they effectiveness of the products is highly variable and installation dependent. *(Staff Note: Substantiating documents attached at the end of this file)*
	Section Number: 703.1.5 Building envelope leakage ***Full Name:*** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions ***Requested Action:*** Revise as follows ***Suggested Changes*** Change CZ 2, 1 ACH50 to 6 points. ***Reason:*** CZ 2, 1 ACH50 has fewer points than CZ 2, 2 ACH50. I believe this was an oversight and should be reviewed.
	Staff Note on the Public Comment by Julie Anne Ruth: *Seventeen (17) negative votes have been submitted by the committee members on the same issue: combining vertical fenestration and skylights into a single table for assignment of points. These negative votes have been submitted to TG-5 for review and a recommended resolution.*
	Section Number: 703.1.6 Fenestration Specifications ***Full Name:*** Julie Anne Ruth, JRuth Code Consulting, American Architectural Manufacturers Association (AAMA) ***Requested Action:*** Revise as follows ***Suggested Changes:*** **703.1.6 Fenestration**

703.1.6.1 NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis are in accordance with Table 703.1.6.1. **Area weighted averages are to be calculated separately for the categories of 1) Windows and exterior doors, and 2) Skylights and tubular daylighting devices (TDDs).** Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

Table 703.1.6.1
Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	0.65	0.30
2	0.65	0.30
3	0.40	0.30
4 to 8	0.35	Any
	Skylights and TDDs (maximum certified ratings)	
1 and 2	0.75	0.30
3	0.65	0.30
4 to 8	0.60	Any

703.1.6.2 The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) **on an area-weighted average** are in accordance with Tables 703.1.6.2(a), ~~or~~ (b) or (c). **Area weighted averages are to be calculated separately for the categories of 1) Windows and exterior doors, and 2) Skylights and tubular daylighting devices (TDDs).** Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

Table 703.1.6.2(a)
Enhanced Fenestration and Specifications

Climate Zones	Windows and Exterior Doors (maximum certified rating)		Skylights and TDDs (maximum certified ratings)		Points
	U-Factor	SHGC	U-Factor	SHGC	
1	0.60	0.27	0.70	0.30	10
2	0.60	0.27	0.70	0.30	5
3	0.35	0.30	0.57	0.30	6
4	0.32	0.40	0.55	0.40	2
5	0.30	Any	0.55	Any	5
6	0.30	Any	0.55	Any	5
7	0.30	Any	0.55	Any	5
8	0.30	Any	0.55	Any	5

Table 703.1.6.2(b)
Enhanced Fenestration and Specifications

Climate Zones	Windows and Exterior Doors (maximum certified rating)		Skylights and TDDs (maximum certified ratings)		Points
	U-Factor	SHGC	U-Factor	SHGC	

1	0.40	0.25	0.49	0.28	13
2	0.40	0.25	0.49	0.28	9
3	0.30	0.25	0.49	0.28	9
4	0.28	0.40	0.49	0.40	4
5	0.25	Any	0.46	Any	8
6	0.25	Any	0.46	Any	9
7	0.25	Any	0.46	Any	9
8	0.25	Any	0.46	Any	9

Table 703.1.6.2(c)
Enhanced Fenestration and Specifications

Climate Zones	Windows and Exterior Doors (maximum certified rating)		Skylights and TDDs (maximum certified ratings)		Points
	U-Factor	SHGC	U-Factor	SHGC	
1	0.40	0.25	0.44	0.25	13
2	0.40	0.25	0.44	0.25	9
3	0.30	0.25	0.40	0.25	9
4	0.25	0.40	0.40	0.40	5
5	0.22	Any	0.40	Any	9
6	0.22	Any	0.40	Any	9
7	0.22	Any	0.40	Any	9
8	0.22	Any	0.40	Any	9

Reason: Separate criteria should be provided for skylights and TDDs than for windows and doors. NFRC 100 and NFRC 200 require skylights to be evaluated for U-factor an SHGC at a slope to horizontal of 20 degrees. This slope typically results in an increase in U-factor of approximately 20%. In addition, skylights on a flat roof must project above the envelope to satisfy the code requirements for installation on a curb, resulting in a further U-Factor increase of about 30%. Also, skylights do not constitute more than 3% of the roof area in most residences, whereas exterior windows and doors typically constitute about 15% of the exterior wall area. Therefore, the impact of slightly higher U-factor for skylights is less than the same increase in U-factor for exterior windows and doors on the overall building envelope UA. This comment returns separate U-factor and SHGC values for skylights and TDDs to prescriptive optional energy fenestration tables 703.1.6.2(a), 703.1.6.2(b) and 703.1.6.2(c). The values in (a) are based on actual Version 5 ENERGY STAR and the values in (b) are adjusted slightly from previously considered values to more closely align with decreases taken from Table 703.1.6.2 for exterior windows and doors. Table (c) is a new table. It does not currently contain provisions for skylights, but they are being proposed as part of this comment. The tables have been reformatted to clarify the intent of the section. Previously separate rows for skylights and TDDs existed in Tables 703.1.6.2(a) and 703.1.6.2(b). These separate rows have been replaced by additional columns for skylights and TDDs to the existing rows for exterior windows and doors. Having all of the criteria in the same row clarifies that all the criteria given in each row must be met for the fenestration to qualify for the points available for that climate zone, in whatever table is being used. For example in order to qualify for the 13 points available in climate zone 1 when Table 703.1.6.2(b) is being used, it is now clear that the area weighted average U-factor of exterior doors and windows must not exceed 0.40, the area weighted average SHGC of exterior windows and doors must not exceed 0.25, the area weighted average U-factor of skylights and TDDs must not exceed 0.49, and the area weighted average SHGC of skylights and TDDs must not exceed 0.28. The previous format of the table may have been misinterpreted to imply that 13 points were available if the exterior windows and doors have a maximum area weighted average U-factor of 0.40 and SHGC of 0.25, and an additional 13 points were available if the skylights and TDDs have a maximum area weighted average U-factor of 0.49 and SHGC of 0.28. Such an interpretation would not have been consistent with the intent of this section. The new format reduces the

	possibility of such a misinterpretation. We would also ask the Committee to reconsider the points available, as there may be a need to adjust them to: • Show a point spread commensurate with the difference between Table (c) and Table (b) performance specifications. • Make the points scales equal in the extreme zones, north and south, unless there is robust analysis justifying any differences between them.
	Section Number: 703.2.2 Furnace and/or Boiler Efficiency ***Full Name:*** Daniel Carrier, UTC Climate Controls & Security ***Requested Action:*** Revise as follows ***Suggested Changes:*** There is no text to be changed, however, the points shown in Tables 703.2.2(3) & (4) would be the same, for the same AFUE ratings, as those defined in Tables 703.2.2(1) & (2). ***Reason:*** The points cited in Tables 703.2.2(3) and 703.2.2(4) awarded to gas & oil boilers, as a function of AFUE rating, should be the same as those proposed for forced-air gas and oil furnaces, tables 703.2.2(1) and 703.2.2(2). When selecting a heating system for a home, the sizing of that system is a function of the design heating load. So for a constant efficiency level, there should be no difference in the computed energy savings when comparing a furnace with a boiler. The only rational for awarding more points for a gas boiler is due to the absence of a circulating air blower. However, the assumptions used in the AFUE ratings for furnaces and boilers are not identical. Per DOE regulations, furnaces are rated using Isolated Combustion System method, which assumes an unconditioned garage-type installation, while boilers are rated assuming an indoor installation inside the conditioned space. If furnaces were rated assuming an indoor installation (where they will most likely be located in order to keep ducts inside the conditioned space), they would have a 1-2 point higher AFUE rating. When entered into a home energy model, the 1-2 point AFUE increase negates a very large portion of the blower source energy penalty. In addition, most very high AFUE furnaces incorporate highly efficient blowers that also negate much of the blower power penalty. Therefore, I propose, that for a given AFUE value, the same number of points be award for gas boilers as are being awarded for forced-air gas furnaces.
	Section Number: 703.2.2 Furnace and/or Boiler Efficiency ***Full Name:*** Daniel Carrier, UTC Climate Controls & Security ***Requested Action:*** Revise as follows ***Suggested Changes:*** Utilize HERS modeling techniques to estimate the fan power associated with a gas boiler water-to-air heating system in each climate zone, and add a row to Tables 703.2.2(3) & (4) to deduct points from those being awarded for boiler efficiency when installed with a water-to-air heating air handler unit. ***Reason:*** There are many installations where a hydronic boiler or domestic water heater are installed in concert with an air handler. Fan power can be accounted for in the performance path as many home energy models have inputs for auxiliary electricity use such as fan power. The prescriptive path, however, does not penalize such water-to-air systems for fan energy consumption. Since it is not clear as to the energy value of a rating system point, I suggest that the NAHB standard team utilize HERS modeling techniques, or other home energy simulation protocol, to estimate the fan power associated with a boiler water-to-air heating system for each climate zone, and add a row to Tables 703.2.2(3) & (4) to deduct points from those awarded for boiler fossil fuel efficiency when installed with a water-to-air heating air handler unit. Similar consideration should be given to Combo Units under 703.2.1, however, since that section was not under this Public Review, a formal comment for that section was not submitted.
	Section Number: 703.4.5 Solar water heater ***Full Name:*** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions

	Requested Action: Delete and substitute as follows ***Suggested Changes:*** Delete proposed table and used old table. ***Reason:*** The structure of the new table will discourage the use of solar water heating in all climate zones. The table should encourage efficient system as in the previous table. The new table would give someone in Michigan more points than someone in Florida.
	Section Number: 705.2 Renewable Energy Service Plan ***Full Name:*** Amy Schmidt, The Dow Chemical Company, Dow Building Solutions ***Requested Action:*** Revise as follows ***Suggested Changes:*** Delete "gas" from 705.2(2) (a) and (b). ***Reason:*** Gas and electricity do not share the same metrics. If there is a desire to include gas then there should be a provision allowing a biogas plan to offset gas consumption. I am unaware of such a plan. There are renewable energy certificates available but they are electricity based. Never the less electricity should not be an option to offset gas and gas should not be an option to offset electricity.

PC226 LogID TG4-1 Chapter 8 Points *Final Formal Action:* Accept as Modified

Submitter:	**Michael Cudahy (on behalf of Task Group 4), Plastic Pipe and Fittings Association**
Public Comment:	All proposed updates to the point assignments for Chapter 8 are shown in Draft #2.
Reason:	Based on Task Group 4 review of the point assignments for Chapter 8 in accordance with the established process.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*The consensus committee made the following changes to the Task Group recommendations on points for Chapter 8 (in red).* **801.7.5(3)** No irrigation is installed and a landscape plan is developed in accordance with Section 503.5, as applicable. ~~**15**~~**25**~~**15**~~
Committee Reason:	In consensus committee judgment, the points for this practice should remain at 15.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC227 LogID TG3-8 Chapter 9 Points *Final Formal Action:* Accept as Modified

Submitter:	**Randy Melvin (on behalf of Task Group 3), Winchester Homes**

Public Comment:	All proposed updates to the point assignments for Chapter 9 are shown in Draft #2.
Reason:	Based on Task Group 3 review of the point assignments for Chapter 9 in accordance with the established process.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*The consensus committee made the following changes to the Task Group recommendations on points for Chapter 9 (in red).* **902.2.1** One of the following whole building ventilation systems is implemented and is in accordance with the specifications of Appendix B. **Mandatory where points are awarded in Chapter 7 for air infiltration rate less than 5 ACH50 ~~(see Section 703.1.5 of Chapter 7)~~**
Committee Reason:	This provision is intended to be used with either the performance or prescriptive path of Chapter 7. The reference to Section 703.1.5 is removed.because Section 703.1.5 is part of the presctiptive path only.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	
Public Comment(s):	***Section Number:*** 902.2.2 Ventilation airflow ***Full Name:*** Brian Mount, TexEnergy Solutions ***Requested Action:*** Delete and substitute as follows ***Suggested Changes:*** ~~Mandatory where air infiltration rate is less than 5 ACH50~~ ***Reason:*** Infiltration rate cannot be measured until the project is complete. At this point it will not be economically/logistically practical to ask a project team to retrofit a fresh air design. I see this credit having an inverse effect on the intent. If a house is scores less than 5 ACH 50 people could just knock holes in the air barrier to bring the infiltration rate to an acceptable level. I suggest that the mandatory requirement be removed and points awarded for including fresh air systems.

PC228 LogID TG1-3 Chapter 10 Points *Final Formal Action:* Accept

Submitter:	**Matt Dobson (on behalf of Task Group 1), Vinyl Siding Institute**
Public Comment:	All proposed updates to the point assignments for Chapter 10 are shown in Draft #2.
Reason:	Based on Task Group 1 review of the point assignments for Chapter 10 in accordance with the established process.
Committee Action from Meeting:	**Accept**
Modification of Public Comment:	
Committee	

Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PC229 LogID TG-2 Chapter 13 Referenced Documents *Final Formal Action:* Accept as Modified

Submitter:	**Matt Dobson (Task Group 1 Chair), Vinyl Siding Institute**
Public Comment:	Update referenced documents as shown in Draft #2. *Staff note: See Chapter 13 (in its entirety) of Draft #2 for the reference documents updates.*
Reason:	Update references to the current applicable versions.
Committee Action from Meeting:	**Accept as Modified**
Modification of Public Comment:	*Staff note: All updates approved by the consensus committee are shown in Chapter 13 of Draft #2 in track changes including Chapter 13 updates based on the approved public comments in the body of the Standard and Appendices. The revisions also include numbering coordination with other Chapters of the Standard.*
Committee Reason:	
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH001 LogID 794 101.3 Intent *Final Formal Action:* Non-Responsive

Submitter:	**Shari Hendley, J.S. Hovnanian & Sons**
Public Comment:	Please take into consideration the continued slow economy, decreased sales volumes and increasing costs when determining the right time to institute some or all of these changes.
Reason:	"This Standard shall establish practices for the design and construction of green residential buildings, building sites, subdivisions, and renovation thereof." While considering instituting these changes, please keep in mind that those who choose to continue to certify their sites, renovations and/or new construction are doing so in spite of the continued slow economy, and decreased home values and

	sales volumes.
Committee Action from Meeting:	**Non-Responsive**
Modification of Public Comment:	
Committee Reason:	In accordance with the development procedures, this public comment considered "Non-Responsive" as it is unrelated to the specific changes shown in the Draft Standard (September 23, 2011), and does not propose any action that can be taken by the consensus committee. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment. In addition, the scope, intent, purpose, and title of the standard are under the purview of the Executive Standards Council. Comments on implementation of the Standard are outside of the purview of the consensus committee. Please refer to the Procedures for information on submitting changes to these sections. As an informational note, your comment will be forwarded to NAHB Research Center's point of contact for the certification program.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH002 LogID 739 102.1 Applicability *Final Formal Action:* Held

Submitter:	**Thomas Culp, Birch Point Consulting LLC**
Public Comment:	**102.1 Applicability.** The provisions of this Standard shall apply to design andconstruction of the residential portion(s) of any building not classified as aninstitutional use or R-1 occupancy in all climate zones. This Standardshall also be used for subdivisions, building sites, and the residentialportions of alterations, additions, renovations, mixed-use residentialbuildings, and historic buildings, where applicable. *or if you don't wish to use occupancy classes,* **102.1 Applicability.** The provisions of this Standard shall apply to design andconstruction of the residential portion(s) of any building not classified as aninstitutional use, hotel, or motel in all climate zones. This Standardshall also be used for subdivisions, building sites, and the residentialportions of alterations, additions, renovations, mixed-use residentialbuildings, and historic buildings, where applicable.
Reason:	Hotels and Motels. Currently, the standard does not use the same scope for residential buildings as the IECC or ASHRAE. I understand this is from the desire to cover apartment buildings not just below 3 stories. However, the generic term "residential" can be interpreted as also containing hotels and motels, which are R-1 occupancies, although these have very different construction and use than other residential buildings. For this reason, hotels and motels are treated as commercial buildings in the IECC. As just one example, hotels commonly use commercial windows and curtain wall assemblies rather than residential windows in lobby areas, rooms, or both. HVAC and lighting are also

	very different. My previous comments attempted to address this in the window section by pointing to the commercial sections of the IECC for these types of buildings. They were rejected because the committee felt windows should not be treated differently than the rest, and also stated “Hotels and motels are covered under commercial building.” I agree, but since hotels and motels are group R-1, I think this proposed change in the Applicability section helps clarify this.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment. In addition, the scope, intent, purpose, and title of the standard are under the purview of the Executive Standards Council. Please refer to the Procedures for information on submitting changes to these sections.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH003 LogID 695 301.2 Awarding of points *Final Formal Action:* Non-Responsive

Submitter:	**Drew Wallace, econsultants, LLC**
Public Comment:	Similar to the exception Energy Star used I would suggest that you allow low income housing projects to continue to certify to the 2008 Green Building Standard for an extended period of time.
Reason:	This is just a general comment. Does not particularly pertain to the Chapter and Section listed above. I would like to suggest that you take in to consideration low income housing projects when you decide on the timeline to implement the new standard. Energy Star did this with the new Version 3.0.
Committee Action from Meeting:	**Non-Responsive**
Modification of Public Comment:	
Committee Reason:	In accordance with the development procedures, this public comment considered “Non-Responsive” as it is unrelated to the specific changes shown in the Draft Standard (September 23, 2011), and does not propose any action that can be taken by the consensus committee. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment. As an informational note, your comment will be forwarded to NAHB Research Center’s point of contact for the certification program.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0**

	Abstain: 0 **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH004 LogID 755 601.1 Conditioned Floor Area *Final Formal Action:* Held

Submitter:	**Derek Huetinck, BeaconCrest Homes**
Public Comment:	[No change from 2008 language.]
Reason:	There is insufficient scientific data to demonstrate that the building of smaller homes leads to an overall decrease in energy efficiency. Smaller homes may house fewer people than larger homes, which could potentially result in more energy consumption per person than more people living in a larger home. It is inappropriate to penalize the building of larger homes without proper data to support the concept that they will lead to greater energy consumption.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH005 LogID 705 601.9 Above Grade Wall Systems *Final Formal Action:* Held

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	601.9 – Would like an additional 'wall system' for bamboo
Reason:	Bamboo is starting to take hold and is good for our mild climate.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	

Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH006 LogID 629 605.0 Intent (Recycled Construction Waste)

Final Formal Action: **Held**

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	RECYCLED CONSTRUCTION and DEMOLITION WASTE
Reason:	The section 605 heading should be revised to include demolition.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH007 LogID 631 605.0 Intent (Recycled Construction Waste)

Final Formal Action: **Held**

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**605.0 Intent.** Nonhazardous waste generated during construction and demolition is recycled or reused. All waste classified as hazardous shall be properly handled and disposed. (Points not awarded for hazardous waste removal.)
Reason:	All nonhazardous waste should be recycled or reused, regardless of whether it is the result of construction or demolition activity. Should the term "hazardous" be defined?
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.

Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH008 LogID 638 605.0 Intent (Recycled Construction Waste)

Final Formal Action: **Held**

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	None
Reason:	General Comment: It would be good to see the waste diversion section further developed to include demolition and land-clearing diversion, higher percentages of diversion, the disallowance of alternative daily cover as diversion, and restrictions on percentage of diversion that can be used as fuel end markets.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH009 LogID 708 605.0 Intent (Recycled Construction Waste)

Final Formal Action: **Held**

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	605 – accept builder photo documentation, or other proof, that material has been 'donated' for reuse or recycling rather than require proof from a certified recycler.
Reason:	Hawaii's recycling management is generally poor. Most builders simply "donate" to the bins at local schools for recycling, but have no receipts for doing so.

Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH010 LogID 628 605.1 Construction Waste Management Plan

Final Formal Action: **Held**

Submitter:	**Kathleen Petrie, City of Seattle, Department of Planning and Development**
Public Comment:	**605.1 Construction and demolition waste management plan.** A construction and demolition waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of nonhazardous construction and demolition waste.
Reason:	There should be an attempt to recycle or reuse all nonhazardous waste, whether it be construction or demolition. There should be an attempt to recycle or reuse all nonhazardous waste, whether it be construction or demolition. The State of California, draft IgCC, Portland, OR, Chicago, IL and Boulder, CO all have a diversion rates of 50%, or greater
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH011 LogID 754 703.1.2.2 Grade 1 installation *Final Formal Action:* Held

Submitter:	**Matthew Dobson, Vinyl Siding Institute**
Public Comment:	703.1.2.2 (3) Exterior rigid insulat~~ion~~ed sheathing or siding ...
Reason:	Change for further clarity.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH012 LogID 769 703.4 Water heating design, equipment, and installation *Final Formal Action:* Held

Submitter:	**Gary Klein, Affiliated International Management, LLC**
Public Comment:	New Sections Demand recirculation system is installed in single family units. Points awarded per circulation zone 1 Maximum points per building 2 Demand recirculation system is installed in multi-family units in place of a standard circulation pump and control. Points awarded per circulation zone 2 Maximum points per building 4
Reason:	Waiting for hot water to arrive at fixtures wastes energy as well as water. In fact, the waste of energy gets worse as the flow rate goes down because the amount of water wasted goes up as the flow rate goes down. In multi-family buildings, a demand recirculation system can reduce the hours of operation of a typical system to less than 2 hours per day in retrofit applications, even lower in new buildings where the hot water piping is installed in accordance with the NGBS. There is electricity saved by reduced pumping energy, but the big savings is in the reduced heat loss in the loop. The reason for the large number of points is that water heating in multi-family buildings is equal to or larger than space heating in much of the country now and will certainly be true in buildings built in accordance with the NGBS.
Committee Action from Meeting:	**Held**

Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH013 LogID 761 703.4.1 Water Heater Energy Factor *Final Formal Action:* Held

Submitter:	**Gary Klein, Affiliated International Management, LLC**
Public Comment:	Add a new line to Table 703.4.1(1)(b) Size (gallons Energy Factor[1] POINTS Any 0.97 10 1. Electric instantaneous water heaters have either an Energy Factor (capacity less than or equal to 12 kW) or a Thermal Efficiency (capacity greater than 12kW)
Reason:	Electric instantaneous water heaters come in a wide variety of sizes (kW) and can be located very close to the points of use. This can reduce the energy needed for heating water by as much as 50 percent. Even when not located closer to the points of use, they are more efficient to operate than electric storage water heaters. They should be included in the table within the standard in the same way that gas instantaneous water heaters are.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 34** **Disapprove: 1** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	***Ted Williams:*** This proposal should be considered in the next cycle of the Standard and in association with all approved changes of the second edition.

Ballot Comment(s) for Abstain:	

PCH014 LogID 714 901.3 Garages *Final Formal Action:* Held

Submitter:	**Gladys Quinto Marrone, BIA Hawaii**
Public Comment:	Better definition of what constitutes a 'carport' is needed. For example, the amount of enclosed space and amount of ventilation for garages with open block walls and windows.
Reason:	Better definition of what constitutes a 'carport' is needed.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH015 LogID 726 1001.1 Homeowner's Manual *Final Formal Action:* Held

Submitter:	**Josh Jacobs, GREENGUARD Environmental Institute**
Public Comment:	**(19)** Instructions for maintaining gutters and downspouts and importance of diverting water a minimum of 5 feet away from foundation. **(20)** A narrative detailing the importance of maintenance and operation in retaining the attributes of a green-built building. **(21)** Where storm water management measures are installed on the lot, information on the location, purpose, and upkeep of these measures. <u>(22) Explanation of and benefits from green cleaning in the home.</u>
Reason:	This section discusses many things that can contribute to not only the buildings continued 'greeness', but also the sustainable footprint of the people that occupy it. One of the main things that can be detrimental to a home's sustainability following construction is the introduction of unhealthy/unsafe cleaning practices. These can directly impact not only the occupant's health, but also the natural environment around the home and even far afield. We should require information be provided to the homeowner on green cleaning practices.
Committee Action	**Held**

from Meeting:	
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

PCH016 LogID 742 1001.1 Homeowner's Manual *Final Formal Action:* Held

Submitter:	**Susan Gitlin, US Environmental Protection Agency**
Public Comment:	UUU
Reason:	We are glad to see that this section includes information on local recycling programs. The section should also specify information identifying local governments, utilities, retailers and manufacturers who offer proper disposal of refrigerators and freezers in partnership with EPA's Responsible Appliance Disposal (RAD) Program. RAD is an EPA partnership program that protects the ozone layer and reduces emissions of greenhouse gases (http://www.epa.gov/ozone/partnerships/rad/). The requirements of the RAD program include ensuring that: 1) refrigerant from appliances is recovered and either reclaimed or destroyed; 2) appliances' insulating foam, which contains harmful foam-blowing agents, is recovered and destroyed, or the blowing agent is recovered and reclaimed; 3) metals, plastic and glass are recycled; and 4) PCBs, mercury and used oil are recovered and properly disposed of.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s)	

for Abstain:	

PCH017 LogID 744 1003.2 Operations Manuals *Final Formal Action:* Held

Submitter:	**Susan Gitlin, US Environmental Protection Agency**
Public Comment:	.
Reason:	a) We are glad to see that this section includes information on local and on-site recycling and hazardous waste disposal programs. The section should specifically mention local recycling of refrigerators and freezers, which contain hazardous materials subject to proper management and storage requirements under Subtitle C of the Resource Conservation and Recovery Act. These materials include mercury, used oil, and PCBs (see 40 CFR Parts 273, 279 and 761). b) We are glad to see that this section includes a list of practices to conserve water and energy (e.g., turning off lights when not in use, switching the rotation of ceiling fans in changing seasons, purchasing ENERGY STAR appliances and electronics). The example of "purchasing ENERGY STAR® appliances and electronics" should be modified to state "replacing older, inefficient appliances and electronics with ENERGY STAR appliances and electronics" so as to capture the additional benefit associated with removing older appliances from the grid.
Committee Action from Meeting:	**Held**
Modification of Public Comment:	
Committee Reason:	The change(s) recommended by this Public Comment do not pertain to the specific changes shown in the Draft Standard (September 23, 2011). In accordance with the development procedures this comment is Held. Please see the Forward of this Public Comments Report for the action and notification required on the part of the submitter of this Public Comment.
Ballot Results on Committee Action:	**Eligible to vote: 41** **Approve: 35** **Disapprove: 0** **Abstain: 0** **Ballot not returned: 6 (Dana Bres; Laverne Dalgleish; Matthew Belcher; Molly Beard; Matt Clark; Ron Burton)**
Ballot Comment(s) for Approve:	
Ballot Comment(s) for Disapprove:	
Ballot Comment(s) for Abstain:	

Substantiating Information Submitted by Janice Yglesias

AAMA Environmental Sustainability Rating Program for Fenestration Products

(program name has been proposed but not yet approved)

PERFORMANCE CLASS R & LC PRODUCTS[1] *(excluding products installed in sloped applications)*

Category	Points		Verification or Test Method	Point Allocation Criteria		
	Available	Achieved				
Heating Energy Efficiency	IECC Climate Zones 3-8 25 IECC Climate Zones 1-2 10		NFRC 100 or AAMA 1503		**Windows and Glazed Doors having 25% or more glazed area**	**Opaque Doors and Glazed Doors having less than 25% glazed area**
				IECC Climate Zones 3-8	Points = 61 x (0.61 - U-Factor)	Points = 138.9 x (0.33 - U-Factor)
				IECC Climate Zones 1-2	Points = 24.4 x (0.61 - U-Factor)	Points = 55.6 x (0.33 - U-Factor)
Cooling Energy Efficiency	IECC Climate Zones 3-8 15 IECC Climate Zones 1-2 30		NFRC 200		**Windows and Glazed Doors having 25% or more glazed area**	**Opaque Doors and Glazed Doors having less than 25% glazed area**
				IECC Climate Zones 3-8	Points = 83.3 x (0.41 -SHGC)	NA
				IECC Climate Zones 1-2	Points = 166.7 x (0.41 - SHGC)	NA
Operable Product	8		AAMA/WDMA/CSA 101/I.S.2/A440	**8 Points**	Operable products or those having integral ventilators	
Air Infiltration	10		AAMA/WDMA/CSA 101/I.S.2/A440	**10 Points**	Independent 3rd Party certification indicating a minimum 33% reduction below the minimum requirements by class or operator type.	
				8 Points	Independent 3rd Party certification indicating compliance with minimum requirements by class or operator type.	
				4 Points	Test report from an independent testing laboratory indicating a minimum 33% reduction below the minimum requirements by class or operator type	
				2 Point	Test report from an independent testing laboratory indicating compliance with minimum requirements by class or operator type	
Water Resistance	3		AAMA/WDMA/CSA 101/I.S.2/A440	**3 Points**	Independent 3rd Party certification indicating compliance with minimum requirements by class or operator type	
				1 point	Test report from an independent testing laboratory indicating compliance with minimum requirements by class or operator type	
Structural Performance	3		AAMA/WDMA/CSA 101/I.S.2/A440	**3 Points**	Independent 3rd Party certification indicating compliance with minimum requirements by class or operator type	
				1 point	Test report from an independent testing laboratory indicating compliance with minimum requirements by class or operator type	
Durability of Insulating Glass Units	8		ASTM E2190	**8 Points**	Independent 3rd Party certification	
				2 Points	Test report from an independent testing laboratory indicating compliance with ASTM E2190	
Durability of Finishes	3		AAMA 611, 612, 613, 614, 615, 623, 624, 625, 2603, 2604, 2605	**3 Points**	Finish meets minimum requirements of 611 (Class I), 612, 615, 625 or 2605 and applicator is listed in AAMA's Verified Components Program or profile is listed in AAMA's Profile Certification Program if no applied finish is required	
				2.5 Points	Finish meets minimum requirements of 611 (Class II), 614, 624 or 2604 and applicator is listed in AAMA's Verified Components Program or profile is listed in AAMA's Profile Certification Program.	
				2 Points	Finish meets minimum requirements of 613, 623 or 2603 and applicator is listed in AAMA's Verified Components Program or profile is listed in AAMA's Profile Certification Program.	
				1.5 Points	Test report indicating that finish meets 611 (Class I), 612, 615, 625 or 2605	
				1 Points	Test report indicating that finish meets 611 (Class II), 614, 624 or 2604	
				0.5 Point	Test report indicating that finish meets 613, 623 or 2603	

Category	Points		Verification or Test Method	Point Allocation Criteria	
	Available	Achieved			
Condensation Resistance	3		NFRC 500	**3 Points**	Condensation Resistance ≥ 65
				2 Points	60 ≤ Condensation Resistance < 65
				1 Point	50 ≤ Condensation Resistance < 60
Visible Transmittance	8		NFRC 300	Points = 20VT - 4	
Recycled/Renewable Content	8		AAMA GSSDTG	Manufacturer keeps records on file indicating that the labeled product Series has a combined weight of, a) post-consumer plus one-half pre-consumer recycled content as defined in FTC 63 FR 24248, May 1, 1998; part 260 **PLUS** b) renewable content certified as a renewable material(s) under a nationally recognized program as defined in ISO 14020, 14021, 14024 or 14025, comprising the sash and frame components as a percentage of the total weight of sash and frame components in accordance with the following:	
					Combined Recycled plus Renewable Content
				8 Points	>20% by total weight
				5 Points	>10-20% by total weight
				2 Point	1-10% by total weight
Applied Finishes	3		AAMA 611, 612, 613, 614, 615, 623, 624, 625 2603, 2604, 2605	**3 Points**	Manufacturer keeps records on file indicating that the labeled product or annual production of the labeled product Series was finished employing Very Low-VOC* processes, Inherently VOC-free Processes* **OR** that no finish on sash and frame materials or components was required as prescribed in NAFS-08, Section 6. *(* Refer to Procedural Guide for definitions.)*
				1 Point	Manufacturer keeps records on file indicating that the labeled product or annual production of the labeled product Series was finished employing Low-VOC* processes. *(* Refer to Procedural Guide for definitions.)*
Environmental Management	3		ISO 14001	**3 Points**	Having evidence of a 10% maximum production scrap rate as a prerequisite, manufacturer maintains records available for inspection that no greater than 20% of produced scrap is contributed to the waste stream (landfill) by weight and is ISO 14001 certified
				2.5 Points	Manufacturer maintains records made available during inspection that a maximum production scrap rate of 10% by weight of products is produced and is ISO 14001 certified
				2 Points	Having evidence of a 10% maximum production scrap rate as a prerequisite, manufacturer maintains records available for inspection that no greater than 20% of produced scrap is contributed to the waste stream (landfill) by weight
				1.5 Point	Manufacturer maintains records made available during inspection that a maximum production scrap rate of 10% by weight of products is produced
TOTAL POINTS					
GREEN & SUSTAINABILITY RATIO	points achieved/total points				
GREEN & SUSTAINABILITY RATING LEVEL					
RATING LEVEL CRITERIA				**.55 – .75** *(proposed but not yet approved)*	
				**> .75 – .90** *(proposed but not yet approved)*	
				**> .90** *(proposed but not yet approved)*	

1) As defined in AAMA/WDMA/CSA 101/I.S.2/A440-08

ALL BOLD HIGHLIGHTED ATTRIBUTES ARE MANDATORY FOR CERTIFICATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

March 26, 2012

Dear Radiant Barrier Manufacturer or Interested Party:

In September of 2011, the U.S. Environmental Protection Agency (EPA) finalized new participation requirements for the 'Seal and Insulate with ENERGY STAR' Program for insulation products. During its development, several key issues were raised about radiant barrier products, which have resulted in the exclusion of these products from the new scope of the 'Seal and Insulate with ENERGY STAR' program. These issues include:

- Radiant barrier products, as defined by EPA in the "Seal and Insulate with ENERGY STAR Definitions and Testing Requirements Version 1.0," are not included as a home insulation product in the Federal Trade Commission (FTC) Code of Federal Regulation (CFR) Part 460 "Labeling and Advertising Home Insulation."
- By definition, radiant barrier products do not have an R-value since, for residential applications, they are typically installed in open air spaces like attics, which have significant convective air movement that is difficult to quantify.
- The terms "seal" and "insulate" are not appropriate when applied to radiant barrier products because they are neither sealed nor assigned an R-value.
- Currently, there is no explicit guidance on the effective use of radiant barriers in the International Energy Conservation Code (IECC).
- The cost effectiveness of radiant barrier products is highly variable across climate zones and across various installation scenarios. EPA has not yet developed a way to communicate clearly to consumers the situations in which the product has cost effective benefits within a national program framework.

Note: Reflective insulation products, which are installed in enclosed air spaces (and have very limited but definable air movement), will continue to be included in the program. EPA understands that products are sometimes marketed as both radiant barrier and reflective insulation, as defined in the "Seal and Insulate with ENERGY STAR Definitions and Testing Requirements Version 1.0." In this case, the manufacturer may reapply to participate in the program as a reflective insulation manufacturer and will be required to limit association of the ENERGY STAR (ES) graphics to only the reflective insulation applications.

Although EPA was not able to include radiant barrier products at this time, EPA will continue to work with stakeholders to develop educational and promotional messaging that makes sense for the program.

Due to these unresolved issues, as of May 23, 2012, EPA requires that manufacturers end the labeling of radiant barrier products. All manufacturers labeling radiant barrier products must take the following actions:

- Stop printing any ENERGY STAR logo or graphic on any newly manufactured radiant barrier products or newly printed marketing materials. Manufacturers may continue to use up existing products and materials with the label. Labeled products manufactured before May 23, 2012 do not have to be disposed of. If a manufacturer has a large stockpile or warehouse of products that will not be sold or used by May 23, 2012, EPA suggests stopping the labeling of products immediately.
- Remove references to ENERGY STAR or ENERGY STAR radiant barrier products from all websites.
- Stop using the ENERGY STAR partner mark in reference to the company in marketing materials or on the web. (Manufacturers who make other ENERGY STAR insulation products may continue to use the ENERGY STAR partner logo after May 23, 2012 only once they have met the new participation requirements.)

NOTE: All insulation manufacturers who were previously partnered with the program are currently designated as "inactive" partners as of September 23, 2011, and therefore, are no longer listed in the public database of active partners.

You can find past Webinars explaining the overall changes to the program here, as well as the Seal and Insulate with ENERGY STAR Launch Memo and Definitions and Testing Requirements Version 1.0 released on September 26, 2011.

Radiant Barriers and the ENERGY STAR New Homes Program:

Radiant barriers are referenced in the ENERGY STAR Qualified Homes Version 3 (Rev 5) National Program Requirements. Radiant barriers are listed in the document as an option to meet an ENERGY STAR program requirement to help cool attics containing air ducts in IECC climate zones 1, 2, or 3.

Radiant barrier manufacturers may promote this fact and use the words “ENERGY STAR®” in text referencing the ENERGY STAR Qualified Homes program as long as the text clearly references what section of the Qualified Homes requirements they are referring to, such as:

> "The <*Radiant barrier product*> made by <*manufacturer name*> is designed to meet the Prescriptive Path requirement for homes in IECC Climate Zones1-3 that have more than 10 linear feet of ductwork located in an unconditioned attic. See Exhibit 1 of the *ENERGY STAR Qualified Homes, Version 3 (Rev 05) National Program Requirements* at www.energystar.gov/newhomesguidelines.”

Since radiant barriers are no longer an ENERGY STAR product, manufacturers may not use any ENERGY STAR logos, marks, or graphics to promote such products.

Please send any questions or requests for assistance to insulation@energystar.gov.

Thank you for your continued support of the ENERGY STAR program.

Sincerely,

Doug Anderson
EPA Project Manager
Seal and Insulate with ENERGY STAR