

**Minutes (final)**

GBI Consensus Body Meeting #11

BSR/GBI 01-201X

Webinar

Thursday, February 18, 2016 11:00 AM ET to 2:00 PM ET

Friday, February 19, 2016 11:00 AM ET to 2:00 PM ET

**Attendance:**

No	Name	Organization(s)	12-16-15	1-13-16	2-18-16	2-19-16			
1	Gregg Bergmiller	S/L/A/M Collaborative	X	X	X	X			
2	Paul Bertram	Kingspan Insulated Panels, Inc.	X (Left Early)	X	X	X			
3	Allan Bilka	International Code Council	X	X	X	X			
4	Jeff Bradley	American Wood Council	X	X	X	X			
5	William Carroll	American Chemistry Council	X	X	Absent	X			
6	Chris Dixon	NBBJ (rep. self)	X	X	Absent	X			
7	Nicole Dovel-Moore	CTA Architects Engineers	Absent	Absent	Absent	Absent			
8	Amber Dzikowicz	NSF International	Absent	X	X	X			
9	David Eldridge	Grumman/Butkus Assoc.	X	X	X	X			
10	William Freeman	Resilient Floor Covering Institute	X	X	X	X			
11	Susan Gitlin	U.S. EPA	Observer	X	X	X proxy for Don Horn			
12	Don Horn	GSA	Alternate	X	X	X By proxy			
13	Josh Jacobs	UL Environment	X	X	X	X			
14	Greg Johnson	Johnson Consulting Services, Greenscape Alliance	X	X	X	X			
15	Karen Joslin			X	Absent	X			
	Leslie Kahn	Admin. Office of the U.S. Courts	Resigned						
16	Malee Kaolawanich	NIH (rep. self)	X	X	Absent	Absent			
17	Rachel	AIA	X	Absent	X	X			

	Minnery								
18	Charles Kibert	University of Florida	X	X	X	X			
19	Gary Keclik				X	X			
20	John Koeller	Alliance for Water Efficiency	X	X	Absent	X			
21	Jennifer Kowalonek	Alfred Benesch & Company	Absent	X	X	Absent			
22	Michael Lehman	ConTech Lighting	Absent	X	X	X			
23	Tien Peng	National Ready Mix Concrete Assn.	X	X	X	X			
	Bernadette Reyes	Clark Construction Group	Resigned						
24	Angela Rivera	URS Corporation (rep. self)	Absent	Absent	Resigned				
25	Jane Rohde	JSR Assoc. Inc., Vinyl Institute	X	X	X	X			
26	Gord Shymko	G.F. Shymko & Associates, In.	X	X	Absent	Absent			
	Julie Sobelman	Independent Consultant	Resigned						
27	Kent Sovocool	Southern Nevada Water Authority	X	X	X	X			
28	Steve Strawn	JELD-WEN	X (Proxy for Paul Bertram)	Absent	Absent	Absent			
29	George Thompson	Chemical Compliance Systems, Inc.	X	X	X	X			
30	Angela Tin	American Lung Assn.	Alternate	Absent	X	X			
31	Douglas Tucker	Misubishi Electric Cooling & Heating	Absent	Absent	X	Absent			
32	Erika Winters Downey	American Institute of Steel Construction	Alternate	X	Alternate	Absent			
<b>Voting Alternates</b>									
	Abby Brokaw	American Lung Assn. (voting Alternate for Angela Tin)	<b>X</b>			<b>X</b>			
	Paul Karrer	AIA (Alternate for Rachel Minnery)							
	Bill Hoffman	UL Environment							

		(Voting Alternate for Josh Jacobs)							
	Lance Davis	GSA (Voting Alternate for Don Horn)	X						
	D'Lane Wisner	D'Lane Wisner (Voting Alternate for William Carroll)							
	John Cross	American Institute of Steel Construction (Voting Alternate for Erika Winters-Downey)	X		X				
TOTALS			23/29	25/32	23/31	24/31		/	3 1
<b>Visitors</b>									
	Ed Deomano	Composite Panel Association	X		X	X			
	Christian Taber	Big Ass Solutions	X		X				
	Brent Mecham	Irrigation Association	X						
	Jiri Skopek	JLL	X	X					
	Martha VanGeem	Self (Principal Engineer)	X	X	X	X			
	Chris Hsieh	Trane	X						
	Allen Blakey	Allen Blakey & Associates	X						
	Kyle Thompson	IAPMO	X		X	X			
	Jake Vandevort	?		X					
	Sydney Lindquist	Hexion Inc.		X					
	Ric Doedens	K.R. Moeller Associates, Ltd.		X					
	David Sundersingh	Self		X					
	Mike Cudahy	Plastic Pipe and Fittings Association		X	X	X			
	Alfred Hodgson	Berkeley Analytical		X					
	Kevin	?		X					

	McKenny								
	James Kirby	Center for Environmental Innovation in Roofing (CEIR)		X					
	Kelly Scanlon	U.S. EPA			X				
<b>Staff/Consultants</b>									
	Wayne Trusty	Chair	X	X	X	X			
	Vicki Worden	Executive Director, GBI	X		X	X			
	Emily Randolph	Secretariat Asst., GBI	X	X	X	X			
	Micah Thomas	Staff, GBI							
	Maria Woodbury	Secretariat, GBI	X	X	X	X			

**Thursday, February 18, 2016**

**Welcome & Roll Call**

Chair, Wayne Trusty, welcomed participants. Roll call established quorum. At this meeting, one member voted using a voting alternate (John Cross for Erika Winters-Downey). There were no members voting via proxy.

Secretariat, Maria Woodbury informed participants that the call was being recorded for the purpose of minute taking and no objection was raised.

The antitrust statement was reviewed and participants were requested to comply with it fully.

Woodbury reviewed the participation options, stating that while observers are welcome to participate in the discussion, only Consensus Body Members are able to vote. Participants were reminded to raise hands should they desire to add something new to the discussion and staff would then call on them in order.

**Administrative Procedures and Related Matters**

The agenda was reviewed and no changes were requested by the Consensus Body.

The membership roster was reviewed, noting that it is published online denoting interest categories and the organizations each individual is representing. Woodbury reported one member of the Consensus Body had resigned: Angela Rivera (User). The Consensus Body now has 31 voting members.

Trusty asked for a motion on the minutes from the meeting on January 13th.

**MOTION: A motion was made, seconded, and carried to approve the minutes from the last Consensus Body Meeting on Wednesday, January 13, 2015.**

None opposed. None Abstained.

## Discussion of public comments Subcommittee Reports

### Materials

Materials Chair Charles Kibert reported on the Materials Comments

#### 7 – 11. Substantive. 10.1.1

- **Comment:** Informational Reference(s):
  - ASTM E2921-13 Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes and Rating Systems

LCA Tool(s):

  - The Athena Impact Estimator for Buildings:  
<http://calculatelca.com/software/impact-estimator/>
  - GaBi Software Building LCA:  
<http://www.gabisoftware.com/america/solutions/building-lca/>
  - SimaPro Sustainability Life Cycle Assessment Carbon Footprinting:  
<http://www.simapro.co.uk/>
  - Tally™: <http://choosetally.com/>
- **Reason:** Based on comments from committee members it is my understanding that the list of LCA Tools in this section was intended to be a portion of the Informational Reference(s). However in the document it is not indented beneath the Informational References heading, but rather appears to be a standalone section. If it is intended to be a standalone section it seems to be mandating the use of a tool from the list provided. This would be inappropriate in a standard as it should not require the use of specific proprietary tools to the exclusion of other tools which may be available in the marketplace. Indenting the list under Informational References resolves this issue.
- **Proposed Response:** Accept
- **Subcommittee Vote Results:** 10 in favor, 1 abstained

**MOTION: The motion was made and seconded to Accept the proposed response. The motion carried with 19 in favor, none opposed and 1 abstained.**

None Opposed.

Abstained: Amber Dzikowicz

#### 52 – 44. Substantive. 10.1

- **Comment:** Suggest removing specific list of LCA Tools.
- **Reason:** Listing specific LCA Tools may limit the user's ability to complete and/or achieve these points. Software systems evolve and change. Some are expensive. Also, some are open source and free. For example, the BIRDS tool from NIST is available for free, but is not identified as an LCA Tool. If the list must be kept in the document, then please consider identifying it using the terms "examples" or "informational references."
- **Proposed Response:** Reject based on action taken with previous comment 7 – 11. Note commenter was on the line and was amenable to this response.
- **Subcommittee Vote Results:** Unanimous

**MOTION: The motion was made and seconded to Accept the proposed response. The motion carried with 20 in favor, none opposed, and none abstained.**

None Opposed.

None Abstained.

### **1 – 1. Substantive. 10.1**

- **Comment:** Clarify this requirement.
- **Reason:** In the LCA credits, it stipulates a 5% threshold for being better or worse in a particular impact category. In reality, that threshold is well within the margin of error for all LCA impact categories and is subjective (i.e. it's not based off any tangible threshold for better or worse). LCA results could shift that much year to year just from grid-mix changes. As such, it's a problematic criteria that doesn't add value, and we suggest that it be clarified or changed to a meaningful requirement.
- **Proposed Response:** Reject. To clarify, while a 5% improvement in an LCA could be in the error margins for a single product selection, when done for a whole building it will still be a better method than other options in the standard, such as single issue credits. E2921 requires the same software be used for the buildings and therefore reduces uncertainty.
- **Subcommittee Vote Results:** Unanimously in Favor

**MOTION: The motion was made and seconded to Accept the proposed response.**

**Discussion took place on the motion:**

- It was noted that the response should be rephrased to state that this option is the best and that there are no better options. Some felt the response should be sent back to the subcommittee to be rephrased rather than rewriting the response on the call. The proposal was made to strike the last four words from the response.
- The question was raised whether the response and the reason both required a vote. It was confirmed that both the response and the reason for response need to be voted on by the Consensus Body.

**The motion was amended to strike “and therefore reduces uncertainty” from the reason. The amendment was seconded. The motion carried with 19 in favor, none opposed, and 2 abstained.**

None Opposed.

Abstained: Allan Bilka, Kent Sovocool

### **7 - 12. Substantive 10.1.1**

- **Comment:** Maximum = 30 points  
Points are earned where **the following** ~~there is a~~ percentage reduction **is demonstrated** for at least three impact indicators:
  - Thirty points are earned for a 205% or greater reduction.
  - ~~Twenty eight points are earned for a 24% reduction.~~
  - ~~Twenty six points are earned for a 23% reduction.~~
  - ~~Twenty four points are earned for a 22% reduction.~~

- ~~Twenty two points are earned for a 21% reduction.~~
- Twenty points are earned for a 210% reduction.
- ~~Eighteen points are earned for a 19% reduction.~~
- ~~Sixteen points are earned for an 18% reduction.~~
- ~~Fourteen points are earned for a 17% reduction.~~
- ~~Twelve points are earned for a 16% reduction.~~
- Ten points are earned for a 15% reduction..
- **Reason:** Proposed point scheme allowed for trade-offs across all impact categories. Also, in LCA, a 1% difference across multiple indicators is not significant and will not show actual improvement
- **Proposed Response:** Reject. It's unlikely to have all three chosen impact categories to result in the same nice even number, but a mix of numbers. This scale allows for that.
- **Subcommittee Vote Results:** 11 in favor, 2 abstained

**MOTION: The motion was made and seconded to Accept the proposed response.**

**Discussion took place on the motion:**

- The question was raised whether the commenter was confused about the point system and the request was made to clarify the point system. The point was also made that it is unclear whether the 15% reduction was referring to the total of the minimum of each of the three impact categories or whether each impact category had to get a minimum 15% reduction.
- It was proposed to clarify the point column by saying that “points are earned when there’s a total percent reduction for the three impact categories.” One member felt that that language still wasn’t accurate and that the credit is referring to the added percentage or the cumulative percentage.

**Chair decided too much time had been spent on the issue and the motion was left unresolved. The Subcommittee Chair agreed to take this comment back to the Materials Subcommittee.**

#### **24 – 16. Substantive. 10.1.1**

- **Comment:** “The project team evaluates a minimum of two different building designs...” during the {insert phase of construction here}..
- **Reason:** There is no context as to when this assessment should be conducted nor the degree to which two distinct and different building designs is considered. Does a material change in one building system constitute a completely different design? Is geometric or spatial reconfigurations sufficient to be considered different and if so, how different? The intention of this criterion is legitimate but the language is ambiguous.
- **Proposed Response:** Reject the comment since many of these concerns are addressed in E2921.
- **Subcommittee Vote Results:** 9 in favor, 2 opposed, 2 abstained

**MOTION: The motion was made and seconded to Accept the proposed response. The motion carried with 19 in favor, 1 opposed, and 1 abstained.**

Opposed: John Cross

Abstained: Rachel Minnery

#### **52 – 45. Substantive. 10.1.1**

- **Comment:** Add two new impact categories: Material Use and Waste.
- **Reason:** Industry-wide efforts promote the sustainable management of materials and products on a life-cycle basis. These efforts pertain to how materials are used, ensuring reduced consumption of natural resources, overall, and a more productive economy. Whole building life cycle analyses should provide us with adequate measures to assess how well our designs, material choices and construction practices fall in line with these efforts and reduce the overall consumption of natural resources. To more completely assess the effect of our buildings on resource consumption, material use and waste should be included as the two additional impact categories.
- **Proposed Response:** Reject the comment. In LCA TRACI impact categories, the impacts of material use, and what seems to be the opposite term, waste, would be incorporated under other numerous impacts, such as Global Warming Potential. If a product generates more waste during installation, it already gets a hit when compared with a more efficient product.
- **Subcommittee Vote Results:** 10 in favor, 2 opposed, 1 abstained

**MOTION: The motion was made and seconded to Accept the proposed response.**

#### **Discussion took place on the motion:**

- A concern was raised that the response does not get at the broader issue of the wide array of environmental issues in an LCA. It was also noted that there's a lot of overlap between Ozone Depletion and Global Warming Potential, invalidating the argument to not include Materials Use raised in the response.
- It was stated that the five impact categories chosen are the five that are commonly accepted while the others are not as well accepted.
- An argument was made in favor of broadening the number of impact categories in the standard.
- It was clarified that Materials Use and Waste are not impact categories but LCI results and are reported separately from the five impact categories. They appear as a separate list in ISO 21930.
- The request was made that if someone takes issue with the response as proposed that they offer specific language to fix it. The argument was made that sometimes a member can see a hole in a response but does not have the expertise to fill the hole. It was stated that simply stating there's a hole does not give guidance to the subcommittee about how to fix the problem. The comment was made that sometimes the Committee tries to explain too much in their responses.
- It was noted that the results from the LCI are reflected in the LCA. The issue is not that they aren't impacts, but that they are already represented in the actual impacts.

**The motion was amended as follows: Add: "Materials Use and Waste are not impact categories" to the end of reason. The amendment was seconded. The motion carried with 15 in favor, none opposed, and 3 abstained.**



None Opposed.

Abstained: Allan Bilka, Kent Sovocool, Tien Peng

### **52 – 43. Substantive. 10.1**

- **Comment:** Suggest expanding life cycle impact categories to include those evaluated using TRACI 2.1: acidification, eutrophication, climate change, ozone depletion, human health, photochemical smog, and resource depletion.
- **Reason:** TRACI (the Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts) is a peer-reviewed, accepted impact assessment approach. Narrowing impact assessment to five categories limits decision making and increases likelihood of shifting environmental and health burdens to other life cycle stages or other impact categories.
- **Proposed Response:** Reject on the basis that not all impact categories are well defined yet, and not all were weighted equally, with global warming given the highest weighting by a stakeholder panel for BEES, ozone depletion the least. We will further investigate if Global Warming Potential is now Climate Change in TRACI, we should correct. Should put both as synonyms in definitions section if change is made.
- **Subcommittee Vote Results:** 9 in favor, 2 opposed, 2 abstained

**MOTION: The motion was made and seconded to Accept the proposed response.**

#### **Discussion took place on the motion:**

- The request was made to change the reason by capitalizing “reject”, striking “on the basis that” and striking the sentence beginning “we will further investigate...” given that it isn’t specific to directly responding to the comment.
- One commenter stated that their organization feels strongly about expanding the list of impact categories. They went on to state that even if the subcommittee feels that some data is not available for achieving a 5% reduction, reporting on those would still be helpful.
- An LCA expert on the line spoke to address the committee’s concerns about some of the impact categories not being well-defined. The literature reflects that there are many different LCAs that include many different impact categories not just the five that are listed or those that are in EPDs. These impact categories are recognized and quantifiable though not as strong as Global Warming Potential and Ozone Depletion. It was stated that it would be a mistake for the committee to think that they’re not well-defined impact categories. It was also stated that where TRACI stands with these impact categories is good enough. Other LCA tools reference TRACI impact categories, so many are using them. The argument was made to expand to at least the TRACI impact categories.

**Chair decided too much time had been spent on the issue and the motion was left unresolved.**

The point was made that before the Consensus Body sends a comment back to the Subcommittee there ought to be a Consensus Body vote. While three people have stated that they would vote against the motion that by no means indicates that the motion would fail.

A Committee Member raised a point of order, stating that it was unclear which set of Robert's Rules of Order the meeting was following. There was a motion which was seconded and then if there's any discussion no vote is called. It was stated that if we continue in this vein we won't resolve anything.

The Chair restated that it had been previously agreed that if an issue becomes too controversial on one of the conference calls where a strict time limit is in place that the discussion should be postponed to the in-person meeting when it can be played out fully.

It was stated that there would likely be fewer members present at the in-person meeting than on the conference calls.

#### **49 – 23. Substantive. 10.1.1**

- **Comment:** Change indicators to categories. Add impact categories for land use, habitat alteration, resource use, and human health effects
- **Reason:** The limited impact categories currently included do not represent a full life cycle assessment of environmental impacts and may favor environmentally damaging solutions.
- **Proposed Response:** reject on the basis that not all impact categories are well defined yet, and not all were weighted equally, with global warming given the highest weighting by a stakeholder panel for BEES, ozone depletion the least.
- **Subcommittee Vote Results:** 11 in favor, 2 opposed

**The decision was made to defer discussion of this comment until the in-person meeting to be held in March. No motion was made.**

#### **56 – 13. General 10.2**

- **Comment:** The Guiding Principles requirements for Recycled Content, Biobased Content, and Environmentally Preferable Products are single attribute environmental properties of construction materials (structural and interior), and thus aren't directly addressed in BSR/GBI 01-201X. The Product Life Cycle criteria allows for third party Environmental Product Declarations, Multiple Attribute Certifications, and third party Life Cycle Assessment verifications. These verified product labels include recycled content and bio-based attributes if they are included in the manufacture of the product. The "Environmentally Preferable" designation can be evaluated and compared for each product by performing a correlation between the EPD/LCA label and Environmentally Preferable standards
- **Reason:** To highlight the different approaches undertaken by the Federal Guiding Principles requirements (released in 2008), and the updated BSR/GBI 01-201X criteria. It is unknown at this time whether the forthcoming revision to the Guiding Principles will adopt a multi-attribute approach or remain with single attributes
- **Proposed Response:** Reject. This is addressed in 10.4 Section: "Recycled Content (Post and Pre Consumer), Bio Based, 3<sup>rd</sup> Party Forestry Certification." Therefore

this would align with the current Guiding Principles (2008) and potentially multiple attributes if addressed in the revised Guiding Principles that are anticipated in 2016.

- **Subcommittee Voting Results:** Unanimously in favor.

**MOTION: The motion was made and seconded to Accept the proposed response. The motion carried with 16 in favor, none opposed, and 4 abstained.**

None Opposed.

Abstained: Kent Sovocool, Josh Jacobs, David Eldridge, Don Horn.

### **36 – 17. Substantive. 10.2.1.1**

- **Comment: 10.2.1.1** A minimum of twenty products, each constituting at least 1% of the total material cost of the project, includes one or more of the following that at a minimum evaluates the *cradle-to-gate product life cycle*:
- **Reason:** Identified products should constitute a significant portion of the building materials.
- **Proposed Response:** Reject based upon this section was developed to address the inclusion of interior finish products that were not formerly included in single attribute calculations because of the smaller percentage based upon an overall project costing. Therefore, this could be a consideration for future updates, but would want to have 20 products that include EPDs, Life Cycle, and utilization of multiple attribute certifications.
- **Subcommittee Voting Results:** Unanimously in favor.

**MOTION: The motion was made and seconded to Accept the proposed response.**

**Discussion took place on the Motion:**

- Editorial changes were proposed to the reason for the response.

**The motion was amended so that the reason reads as follows: “Reject. ~~Based upon This...~~”**

**The amendment was seconded.**

**Discussion took place on the motion:**

- It was pointed out that part of the response states “this could be a consideration for future updates” and that based on previous discussion the committee said that no comments would be made regarding what would be done in the future. The question was raised whether that decision applied to this situation. It was stated that in this case this could be a consideration for future updates but the committee is not committing itself to any future action so this is therefore admissible.

**The motion carried with 18 in favor, none opposed, and 2 abstained.**

None Opposed.

Abstained: Allan Bilka, Susan Gitlin.

## **Energy**

Energy Chair David Eldridge reported on the Energy Comments:

### **49 – 19. Substantive. Energy Section**

- **Comment:** Consistently reference ANSI/ASHRAE/IES Standard 90.1-2013

- **Reason:** The performance path references 90.1-2010 and the prescriptive path references 90.1-2013. The latest standard should be the basis for energy efficiency.
- **Proposed Response:** Reject. The approaches are not inconsistent. They've been designed to offer smaller level points for 2010 and higher level points for 2013.
- **Subcommittee Voting Results:** Unanimously in favor.

**MOTION: The motion was made and seconded to reject the comment using the proposed response. The motion carried with 20 in favor, 1 opposed, and none abstained.**

Opposed: Don Horn

None Abstained.

#### **29 – 6. Substantive. 8.**

- **Comment:** Could there be a path using AEDGs or another package of prescriptive options to earn a partial score. For instance, 50% AEDG compliance = 100 points.
- **Reason:** none given
- **Proposed Response:** Reject, no change suggested.
- **Subcommittee Voting Results:** Unanimously in favor.
- **Note:** Commenter willing to withdraw comment. Would like to resubmit at later date, with more persuasive argument.

**MOTION: The motion was made and seconded to reject the comment with the reasoning that the commenter was withdrawing and will resubmit at a later time with a detailed plan. The motion carried with 19 in favor, none opposed, and 1 abstained.**

None Opposed.

Abstained: Susan Gitlin

#### **56 – 5. General. 8.1**

- **Comment:** Path A is more stringent than the Guiding Principles for New Construction requirement for Energy Efficiency, which cites ASHRAE 2007.
- **Reason:** None Given
- **Proposed Response:** Accept as noted.
- **Subcommittee Voting Results:** Unanimously in favor.

**MOTION: The motion was made and seconded to accept the comment as noted. The motion carried with 21 in favor, none opposed, and none abstained.**

None Opposed.

None Abstained.

#### **24 – 13. Substantive. 8.1.1.1**

- **Comment:** "...ASHRAE 90.1-~~2013~~ 2010 or 2015 ~~2012~~ IECC."
- **Reason:** Consider updating reference standards to their current versions. These standards are shown updated in Section 8.3.1.1.1 therefore if both section were accurate, users are told to use two versions of the same document which is inconsistent and confusing.
- **Proposed Response:** Reject, the 90.1-2010 is intended to be the lowest level of achievement.

- **Subcommittee Voting Results:** Unanimously in favor.

**MOTION:** The motion was made and seconded to **Reject the comment with the proposed reasoning.**

**Discussion took place on the motion:**

- One member stated that they interpret the proposed response to mean that the 2010 Standard is more stringent than the 2013. It was stated that the opposite was true and that the 2010 is the lowest level of achievement to earn points and then higher levels of points can be earned using the 2013 Standard.

**The motion carried with 19 in favor, 1 opposed, and 1 abstained.**

Opposed: Don Horn

Abstained: Susan Gitlin

#### **50 – 6. Substantive. 8.1.1.1**

- **Comment:** 1. The explanation of points says 180 points for 45% reduction. But that is the same thing as the next statement of 4 points for every 1 percent reduction.
  2. This begs the questions: what is earned after 45%? Is 46% and up consider the same as zero energy use, all of which results in 180 points?
  3. States there are no points for meeting the baseline.
- **Reason:** 1. Why say? Just say 4 points for every 1 percent up to 45%.
  2. With no additional points, there is no incentive to achieve higher than 45% reduction.
  3. Two issues: some energy-use intense buildings will have a hard time reaching baseline. It would be unfortunate there is no incentive to do so. Also, if resolution of follow-on comment about 2010 and 2013 versions results in this element changing to 2013 version, baseline will be difficult for many more buildings. Consider some points.
- **Proposed Response:** 1.) Accept sub-comment 1 with modification: “Four points are earned for ~~each~~ every 1% percent improvement up to 45% improvement over the baseline model for a maximum of 180 points.” To improve clarity.
 

**Subcommittee Voting Results:** 9 in favor, 1 abstained.

  - 2.) Accept sub-comment 2 as noted, there’s no extra credit at this point at this time. **Subcommittee Voting Results:** 9 in favor, 1 abstained.
  - 3.) Reject the 3<sup>rd</sup> sub-comment as non-persuasive the present minimum baseline is intentional. **Subcommittee Voting Results:** 7 in favor, 2 abstained.

**MOTION:** The motion was made and seconded to **accept with modification as proposed by the subcommittee.**

**Discussion took place on the motion:**

- The subcommittee was applauded for their efforts in sorting through a difficult comment to address. It was stated that the standards committee should not be required to respond to questions unless those questions are brought in as a request for interpretation. The suggestion was made that perhaps more could be done to help

people formulate their comments perhaps by providing example comments that suggest a change.

**The motion carried with 16 in favor, none opposed, and 3 abstained.**

None Opposed.

Abstained: Greg Johnson, Josh Jacobs, Don Horn

#### **50 – 7. Substantive. 8.1.1.1**

- **Comment:** Why is the 2010 version cited? This question also applies to several other ASHRAE references throughout the document.
- **Reason:** Having more than one version might cause conflict. It would be easier to keep the inter-related ASHRAE references the same year, 2013: 90.1, 62.1, 55. Also, 189.1-2014 is the version that works with 2013.
- **Proposed Response:** Reject as non-persuasive, the different versions of ASHRAE 90.1 are intentional. We intentionally and explicitly state which version is applicable to a given credit. The intent is to improve flexibility and allow greater engagement of the rating system as well as allow graduated achievement.
- **Subcommittee Voting Results:** 8 in favor, 1 abstained.

**MOTION: The motion was made and seconded to Accept the proposed response.**

**Discussion took place on the motion:**

- It was stated that 90.1-2010 should not be a part of this Standard. This standard refers to itself as contemporary best practices for sustainable buildings and includes such descriptions as “world class leadership in efficiency”. It was felt that 90.1-2010 does not meet this description. The Federal Guiding Principles require 90.1-2013. Green Globes should not go below that level as a high performance green building standard.
- The point was raised that not all states have requirements as stringent as 2010 and the subcommittee intended to bring states up to the 2010 level and to start awarding points for anything above that level.
- It was stated that while the subcommittee’s reasoning was appreciated, these paths are the highest point earners in the standard and they should be held to the highest level of achievement. It was clarified that starting at 2010 would earn 0 points out of the total 180 points available.
- This approach moves the country as a whole forward while encouraging higher performance.

**The motion carried with 14 in favor, 6 opposed, and 1 abstained.**

Opposed: Susan Gitlin, George Thompson, John Cross, Josh Jacobs, Charles Kibert, Don Horn

Abstained: Amber Dzikowicz

#### **49 – 20. Substantive. 8.1.1.1 & 8.2.1.1**

- **Comment:** The building does not use fossil fuel-generated energy . . .
- **Reason:** Specify fossil fuel-generated energy as opposed to renewable energy
- **Proposed Response:** Reject on the basis that the proposal represents a fundamental change in the credit intent.
- **Subcommittee Vote Result:** 6 in favor, 1 opposed, 1 abstained

**MOTION: The motion was made and seconded to Reject the comment with the proposed response.**

**Discussion took place on the motion:**

- The question was raised about whether the Materials group was approached about addressing this comment. This comment was looked at strictly about how this building would go through Appendix G. Such a building would be exempted from the path. Even if you have 100% on-site renewable you still have to follow procedure and document those energies. It was stated that such buildings would likely do very well and would be expected to earn full credit but it should still be documented.
- If this comment were to be accepted a project could build a building that had no energy efficiency measures that used a lot of solar power. The intention is to conserve all types of energy include solar.
- It was stated that section 8 should not be about minimizing energy usage but rather about minimizing its impact on the environment. If energy is all coming from solar or wind, it isn't impacting the environment it shouldn't matter how much energy they're using. It was pointed out that this standard would be breaking new ground if it did not impose energy efficiency measures.
- It was stated that there are other environmental impacts besides emissions that need to be considered. These other types of energy do have an impact on the environment that needs to be considered.
- A point of order was raised that there have been more comments on this issue than the LCA discussion. The question was raised whether this comment should be deferred. It was agreed that the vote should be called.

**The motion carried with 15 in favor, 1 opposed, and 4 abstained.**

Opposed: Charles Kibert

Abstained: Rachel Minnery, Jeff Bradley, Josh Jacobs, Tien Peng

#### **56 – 6. General. 8.2**

- **Comment:** Path B utilizes ENERGY STAR, same as the Energy Efficiency requirement for the Guiding Principles for New Construction.
- **Reason:** None Given
- **Proposed Response:** Accept as noted. No proposed change to the credit language.
- **Subcommittee Voting Results:** Unanimously in favor.

**MOTION: The motion was made and seconded to Accept as Noted. The motion carried with 20 in favor, none opposed, and 1 abstained.**

None Opposed.

Abstained: Greg Johnson

#### **43 – 19. Substantive. 8.2.1.1**

- **Comment:** Delete "does not use energy". The building ~~does not use energy or~~ achieves more than a 50% reduction...
- **Reason:** This phrase will allow for gaming: "building does not use energy". Does this mean that it generates more energy than it uses? If so, this doesn't

necessarily mean that it should be exempt. This analysis should still be done. If it doesn't use any energy at all, then all the values will be zeros and that is the analysis. It is also confusing to lead off with this phrase.

- **Proposed Response:** Accept
- **Subcommittee Vote Result:** 6 in favor, 2 abstained

**MOTION: The motion was made and seconded to Accept the comment.**

**Discussion took place on the motion:**

- It was agreed that since the User would choose either A, B, or C it only needs to be stated once that the building does not use energy. It was asked if "does not use energy" would be deleted in other sections and the reply was made that while there's no guarantee that changes would not be made to other sections the focus of the current discussion was solely on 8.2.1.1.

**The motion carried with 20 in favor, none opposed, and 1 abstained.**

None Opposed.

Abstained: Susan Gitlin

#### **43 – 20. Substantive. 8.3.1.1.1**

- **Comment:** Modify as follows:  
The *thermal transmittance (U-factor)*, *thermal conductance (C-factor)*, *F-factor*, and SHGC are less than those in the 2015 IECC, Section C402, or ASHRAE 90.1-2013, Section 5, by 10%, except for those items where these factors must meet the 2015 IECC or ASHRAE 90.1-2013:

Demonstrate that the *U-factor*, *C-factor*, *F-factor*, and SHGC are less than those in the 2015 IECC, Section C402, or ASHRAE 90.1- 2013, Section 5, by 5%, except for those items where these factors must meet the 2015 IECC or ASHRAE 90.1-2013:

- **Reason:** What we meant was that the 10% reduction needs to be made for all assemblies except for the exceptions, where the assemblies only need to meet the 2015 IECC or ASHRAE 90.1. The same is true for the 5% reduction.
- **Proposed Response:** Accept the comment with editorial clarification:
  - "Demonstrate that the *U-factor*, *C-factor*, *F-factor*, and SHGC are less than those in the 2015 IECC, Section C402, or ASHRAE 90.1-2013, Section 5, by 5%, except for these items where the factors must meet the 2015 IECC or ASHRAE 90.1-2013:
    - Opaque elements in *Climate Zones 1-3*
    - SHGC for north and south-oriented *fenestration*
    - In cases where the *R-value* or SHGC are NR (no requirement)."
- **Subcommittee Voting Results:** 8 in favor, 1 opposed, 2 abstained.

**MOTION: The motion was made and seconded to Accept the proposed response.**

**Discussion took place on the motion:**

- The comment was made that this criteria is difficult to understand. It was clarified that 5 points are awarded for meeting ASHRAE 90.1-2010 or 2012 IECC, 10 points are earned



for 2013, more points are earned for % above. It was stated that this comment has nothing to do with how points are earned it is only a clarification of the criterion column.

**The motion carried with 14 in favor, 1 opposed, and 5 abstained.**

Opposed: Greg Johnson

Abstained: Susan Gitlin, John Cross, Kent Sovocool, Josh Jacobs, Don Horn

## **Project Management**

The Project Management Chair was not in attendance therefore Secretariat Assistant Emily Randolph reported on the Project Management Comments.

### **50 – 3. Substantive. 6.2.1.1**

- **Comment:** Allow customer organization's formal documentation process when one is in place
- **Reason:** When such documentation process is already in place, organization will not be willing to pay the contractor to create this process again.
- **Proposed Response:** Reject, the organization's documents can be used so long as they comply with the requirement.
- **Subcommittee Voting Results:** Unanimously in favor. Low participation

**MOTION: The motion was made and seconded to Accept the proposed response.**

**Discussion took place on the motion:**

- Clarification was requested regarding the Subcommittee Voting Results. It was clarified that there was low participation of voting members on the call where this comment was discussed. There were enough commenters and voting members on the line to hold discussion. It was added that the proposed responses were circulated via email and none of the voting members raised any objections.
- The question was raised how it could be determined that the organizations documentation process is equivalent to the requirements of an EMS. It was determined that the Assessor would determine whether an organization's documentation is equivalent to the EMS.
- Confusion was raised regarding how the reason relates to the response. It was stated that the reason made it seem like the subcommittee was in fact in favor of the comment. It was clarified that while the subcommittee agreed an organization's documentation process could be used if equivalent they did not want to make a substantive change to the document as they felt that the current wording of the Standard did not exclude the use of the organization's documentation process.
- It was proposed that "equivalent" be added to the proposed response.

**The motion was amended so that the reason reads: "The organization's equivalent documents can be used so long as..." The amendment was seconded. The motion carried with 16 in favor, none opposed, and 3 abstained.**

None Opposed.

Abstained: Allan Bilka, Kent Sovocool, Tien Peng

#### 49 – 11. General. 6.5

- **Comment:** Require minimal commissioning for all projects.
- **Reason:** Minimal commissioning should be required for all projects.
- **Proposed Response:** Reject. Like the comment in principle, but practicality of implementation is very complicated. Would need to see proposal for specific changes from the commenter in order to define what minimal commissioning is. The consensus body has already rejected having de facto prerequisites for the standard.
- **Subcommittee Voting Results:** Unanimously in favor. Low participation. Reviewed by small group and subcommittee

**MOTION: The motion was made and seconded to defer the comment to the in-person meeting stating concerns on the reason.**

#### **Discussion took place on the motion:**

- An alternative response was put forward but not voted on as follows: Reject. ~~Like the comment~~ The committee agrees in principle, but practicality of implementation is complicated. ~~The committee would need to see a proposal for specific changes from the commenter in order to define what minimal commissioning is. The consensus body has already rejected having de facto prerequisites for the standard.~~
- A point of order was raised regarding whether the motion to table was debatable. It was clarified that a motion to table is non-debatable, a motion to postpone needs to include a specific date. The request was made to Staff to clarify what procedures should be followed on the Committee by the next day.

**The motion carried with 13 in favor. 3 opposed, and 4 abstained.**

Opposed: William Freeman, Greg Johnson, Rachel Minnery

Abstained: Angela Tin, Allan Bilka, Susan Gitlin, Tien Peng

#### 28 – 11. General. 6.5.1.1

- **Comment:** There should be more internal consistency as to point awards.
- **Reason:** It's difficult to understand why some items get more than twice as many points as other items. What specific goals are we trying to achieve with these point allocations? 7 points for the lighting system versus 3 points for the electrical system?
- **Proposed Response:** Reject. The current points allocation reflects the relative priority of these systems in other sections.
- **Subcommittee Voting Results:** Unanimously in favor. Low participation, reviewed by both small group and subcommittee

**MOTION: The motion was made and seconded to reject the comment with the given reason.**

**The motion carried with 17 in favor, none opposed, and 3 abstained.**

None Opposed:

Abstained: Allan Bilka, Susan Gitlin, Jeff Bradley

#### 29 – 2. Substantive. 6.5.1

- **Comment:** Increase point allocations for HVAC and envelope relative to other systems. Suggested schedule for example:

- HVAC for 12
  - Envelope for 10
  - Lighting - 4
  - Plumbing - 2
  - Electrical (Normal service) for 2
  - Electrical (Emergency service, if applicable) for 2
  - Communications for 2
  - Other non-energy systems (life-safety could be mentioned specifically?) for 2
- **Reason:** The complexity, risk, and level of effort to prevent underperforming systems is much greater for HVAC and envelope systems than for electrical, plumbing, conveying, and irrigation systems. If the idea is that HVAC is already very common and doesn't have to be incentivized, I would still like to see HVAC and envelope a little higher, and some emphasis to lighting or non-energy systems as important systems to commission but which are sometimes left out.
  - **Proposed Response:** Reject. The current points allocation reflects the relative priority of these systems in other sections. Life safety could be earned under 6.5.1.1.8: Other significant functional and/or energy systems.
  - **Subcommittee Voting Results:** Unanimously in favor. Low participation, but reviewed by small group and subcommittee.

**MOTION: The motion was made and seconded to Reject the comment with the proposed response. The motion carried with 18 in favor, 1 opposed, and 1 abstained.**

Opposed: David Eldridge

Abstained: Susan Gitlin

#### **28 – 12. Substantive. 6.5.1.1**

- **Comment: Points column:**
  - ~~Not applicable if there are no other significant systems.~~
- **Reason:** This doesn't make sense. What building will not have any of the commissionable systems? Alternatively, does it mean that if there are not additional significant systems the entire list is not applicable? (Of course not, but it could be read that way). The section works without this language.
- **Proposed Response:** Accept with Modification. Change criteria to read: **"6.5.1.1.8: Other significant functional and/or energy systems (describe) that account for 10% or more of the total building energy use. (describe)"** Last bullet in points column should be a sub-bullet:
  - "Three points are earned if commissioning and training is conducted for other significant functional and/or energy systems.
    - Not applicable if there are no other significant systems. "

This corrects a transposition error and provides addition clarity to the credit.

- **Subcommittee Vote Results:**

**MOTION: The motion was made and seconded to Accept with Modification using the proposed response.**

**Discussion took place on the motion:**

- It was pointed out that a system that might come up is the Emergency Power which might use less than 10% annually of total building energy use, but should be commissioned for safety of the building. It was asked whether this would be counted under Electrical Generation.

**The motion carried with 17 in favor, 1 opposed, and 2 abstained.**

Opposed: Gary Keclik

Abstained: Allan Bilka, Josh Jacobs

**Discussion of Process**

GBI Executive Director Vicki Worden spoke to the Consensus Body about process. Worden stated that comments and feedback regarding the process are appreciated and taken under advisement. Worden clarified that a motion to table is generally used to move an issue's place in the agenda. There usually is no discussion on a motion to table. Worden agreed with an earlier comment to solidify which version of Robert's Rules of Order is being used on these calls prior to the next day's calls.

Worden clarified that the decision to defer discussion to the in-person meeting is not meant to be obstructionist but was rather meant to be a way to allow more time for discussion on controversial topics. She also asked subcommittee members present to think about reading materials that might be useful for educating the Consensus Body on these controversial issues prior to discussion.

The member who moved to defer comment 49-11 to the in-person meeting clarified that they did so because the comments gets at the heart of one of the most controversial topics: prerequisites.

It was stated that some of the proposed responses are not well drafted, noting that committee responses should not state what the subcommittee thinks, written in first-person singular, use adjectives, etc.

**Adjournment**

The Chair called for a motion to adjourn the meeting.

**MOTION: The motion was made, seconded, and carried to adjourn the meeting at 2:03 pm ET.**

**Friday, February 19, 2016****Welcome & Roll Call**

Chair, Wayne Trusty, welcomed participants. Roll call established quorum. At this meeting, Susan Gitlin served as proxy for Don Horn.

Secretariat, Maria Woodbury, informed participants that the call was being recorded and no objection was raised.

The antitrust statement was reviewed and participants were requested to comply with it fully.

Woodbury reviewed the participation options, stating that while observers are welcome to participate in the discussion, only Consensus Body Members are able to vote.

### **Administrative Procedures and Related Matters**

The agenda was reviewed and changes were requested to clarify procedures around Roberts Rules of Order.

A discussion regarding motions made and seconded but not voted on during the meeting on Thursday February 18, 2016 resulted in the decision to bring the motions back to the group at a future meeting so votes can be held or the motion maker has the option to withdraw their motion.

A discussion on the issue to allow the current debate to be completed within a reasonable time period resulted in the decision to continue allowing discussion on issues as we have been with the following guidelines:

- Everyone requesting to speak may speak once for one to two minutes;
- Anyone wishing to speak again may have one rebuttal lasting up to thirty seconds; and
- The motion maker can be asked if they would like to withdraw the motion or begin voting on the motion.

It was noted that sometimes the Consensus Body call is the first time public commenters are able to be present for discussion on their comment and that their ability to explain or discuss their comment should not be limited.

It was stated that issues that Subcommittees have voted on should not be sent back to the group without direction on what additional work is needed from them before a Consensus Body vote. No formal time limits will be imposed during discussions, instead we will work together with support from the chair to find a solution if a discussion seems to be taking longer than the allocated meeting times.

ANSI advisor Ron Jarnigan provided guidance, stating that there should be consistency in who makes the motions. Subcommittee chairs bringing recommendations to the Consensus Body should make their own motions based on the Subcommittee recommendation and call for a second to the motion.

The technical reasons that have already been approved are not consistent in grammar and tone. It is recommended that the Consensus Body make a motion to direct the Secretariat or Secretariat Assistant to make suggested edits to the technical reasons to provide consistency. This motion should consider what oversight the Consensus Body prefers and whether these changes would need approval.

### **Discussion of public comments: Editorial and General Subcommittee Reports**

#### **Water**

Kent Sovocool, chair of the Water Subcommittee asked for clarification around proposed responses to comments. Edited responses were provided to clean up grammar and tone. Motions where comments are rejected or accepted as modified and reasons are provided to the commenter should indicate whether Reason A or Reason B will be used, with the original reasons labeled A and the edited reasons labeled B.

### **22-2. Substantive. 9.2.1.3**

- **Comment:** Seven points are earned where there is ~~75~~-100% non-evaporative cooling.
- **Reason:** If a builder is going to consider a non-evaporative cooling system max points should only be given if the entire building is cooled that way 100%
- **Proposed Response A:** Reject. **A:** The intent of section 9.2.1.3 is to encourage conservation of evaporative losses from CTs by any manner of various hybridization approaches with non-evaporative modes (both integrated with the tower and separate) and is not intended to express a preference for air-cooled versus water-cooled at large. The language of the section is changed to try to clarify this more fully. (see response to 29 – 9 for language change)
- With respect to requiring 100%, this is paramount to making such an advocacy and also paramount to essentially providing free points in areas where cooling towers are not needed. These are things the Water Subcommittee wished to avoid. See the intent above. Requiring 100% of a building’s cooling demands to be made up by non-evaporative means would mean there would be no cooling tower and thus this section would be non-applicable. Furthermore in practical terms in most hybrid systems the cooling tower is there because at the peak of use is when it is necessary. While recognizing that in a given year a building may make 100% of its demands with a non-evaporative system, the intent is to allow a system to earn maximum points that can make the bulk, here 75% of its annual demands, up with non-consumptive, evaporative cooling means.
- **Proposed Response B:** Reject. The intent of section 9.2.1.3 is to encourage conservation of evaporative losses from cooling towers by any of various hybrid approaches with non-evaporative modes (both integrated with the tower and separate from it). It is not intended to express a preference for air-cooled versus water-cooled. The language of the section has been changed to clarify this. (see response to 29 – 9 for language change) Requiring 100% non-evaporative cooling essentially provides free points in locations where cooling towers are not needed. Requiring 100% of a building’s cooling demands to be made up by non-evaporative means would mean there would be no cooling tower and this section would be nonapplicable. In most hybrid systems the cooling tower is there to support peak demand. In a given year a building may make 100% of its demands with a non-evaporative system, but the intent is to allow a system to earn maximum points when it can make up at least 75% of its annual demands with non-consumptive, evaporative cooling means.
- **Subcommittee vote results** Unanimously in favor.

**MOTION: The motion was made and seconded to reject the comment using Reason B. The motion carried with 21 in favor, none opposed and none abstained.**

None Opposed

None Abstained

#### **29 – 10. Substantive. 9.3.1**

- **Comment:** Strike this section, these are very common in current practice for new buildings and magnitude of water savings is small relative to fixtures...use the 8 points elsewhere.
- **Reason:** none given
- **Proposed Response A:** Reject. The systems should be covered – quite frankly, there aren't many components in a system, so I don't see technical justification for leaving them out. It also gives us a starting point in future additions to increase the stringency on the systems.
- **Proposed Response B:** Reject. The committee believes these systems should be covered to improve water efficiency
- **Subcommittee vote results:** Unanimously in favor

**MOTION: The motion was made and seconded to reject using response B. The motion carried with 20 in favor, none opposed, and 2 abstained.**

None Opposed

Abstained: Susan Gitlin, Don Horn

#### **29 – 11. Substantive. 9.4**

- **Comment:** Similar comment above – so few buildings have laboratory, medical, and laundry equipment that these tend to use up a lot of points that will go not applicable. Could food service, laboratory, medical, laundry, water features, pools be setup as paths for a total pot of 21 points in the path? Weighted average if a building did have more than one applicable path.
- **Reason:** none given
- **Proposed Response A:** Reject. The aspect question of applicability exists for all aspects of the specification Standard. By nature of the requiring that 20% of the applicable points be garnered for each section (i.e. Section 3.2), there is no disadvantage or advantage to whether these high water uses are present.
- **Proposed Response B:** Reject. Water conservation in high water use occupancies should be incented.
- Subcommittee vote results:

**MOTION: The motion was made and seconded to reject using reason A.**

**Discussion took place on the motion:**

- It was clarified that the motion was made to use only Reason A and not Reason B.

**The motion was amended and seconded to change language in Reason A as follows: “aspect question... specification Standard. The motion carried with 22 in favor, none opposed and none abstained.**

None Opposed

None Abstained

#### **33 – 2. Substantive. 9.4.3.2**

- **Comment:** Existing statement is made as follows: "~~Washers have a water consumption of 1.0 gal/lb. (8 L/Kg); or less than 1.4 gal/lb. (12 L/Kg); and...~~" Proposed statement: Maximum water consumption of *clothes washers* is 1.0 gal/lb. (8 L/kg); and...
- **Reason:** The provision, as written is confusing because it provides 2 thresholds without explaining the difference or which threshold applies in which cases. Simplification is needed.
- **Proposed Response:** Accept with modification to also strike "clothes" from first part of the sentence for clarification: "~~Clothes washers have a water consumption of 1.0 gal/lb. (8 L/Kg); or less than 1.4 gal/lb. (12 L/Kg); and...~~"
- Subcommittee vote results: Unanimously in favor

**MOTION: The motion was made and seconded to accept as modified. An amendment was made and seconded to strike "clothes" in each bullet.**

**Discussion took place on the motion:**

- Question was raised whether we are striking "clothes" as well.
- It was requested to accept with modification to strike "clothes."

**The motion carried with 20 in favor, none opposed and none abstained.**

None Opposed

None Abstained

### **33 – 3. Substantive. 9.4.3.2**

- **Comment:** Statement: "Not applicable where there is no industrial laundry or where volumes do not exceed 350 lbs. (160kg) ~~are not sufficient~~ ~~—————~~ e.g., ~~approximately 363 lbs. (800kg)~~ per hour."
- **Reason:** Not only was the conversion incorrect, but the use of the word "approximately" is not suitable for a standard. Furthermore, where did 363 lbs. come from? This provision needs to be simplified and corrected.
- **Proposed Response:** Accept
- **Subcommittee vote results:** Unanimously in favor

**MOTION: The motion was made and seconded to accept the comment.**

**Discussion took place on the motion:**

- Question was raised we strike "clothes" from washers again.
- Question was raised whether this should be a rate instead of a volume. The options to use weight or "quantity" were raised.
- As an editorial note to Secretariat "clothes" should be removed from the left side
- Clarification that this language refers to laundry centers.

**The motion was withdrawn. A motion was made to move discussion to the in-person meeting. The motion carried with 19 in favor, none opposed and 3 abstained.**

None opposed

Abstained: Susan Gitlin, Don Horn, Allan Bilka

## **Indoor Environment Quality**

### **21 – 8. Substantive. 11**

- **Comment:** Remove one point.



- **Reason:** The Indoor Environment area is supposed to have only 150 points but 151 are attributed in the criteria.
- **Proposed Response:** Accept. One point will be removed. Small groups will look through their sections to find where a point can be removed.
- **Subcommittee vote results:** 8 in favor, 1 opposed, 1 abstained

**MOTION: The motion was made and seconded to accept. The motion carried with 24 in favor, none opposed, and none abstained.**

None Opposed

None Abstained

#### **24 – 18. Substantive. 11.1.1.1**

- **Comment:** ICC International Mechanical Code (ICC IMC 2015 ~~2012~~ · IAPMO UMC (2015) (~~2012~~): Uniform Mechanical Code
- **Reason:** Updated code standards.
- **Proposed Response:** Accept
- **Subcommittee vote results:** Unanimously in favor

**MOTION: The motion was made and seconded to accept.**

**Discussion took place on the motion:**

- This could affect the Energy Section where the Consensus Body voted yesterday to use an older Standard offering compliance as an entry for points.
- The point was raised that we do want consistency throughout the document as much as possible.
- The question was raised that the issue this comment brings up regarding consistency is in the Energy section, so that issue could be brought up in the in-person meeting and we could move forward with the vote on this issue in the IEQ Section.
- The Energy chair offered to have further discussion on the impact of this comment offline to address the Energy Section concerns in order for the vote to proceed.

**The motion carried with 22 in favor, none opposed, and 2 abstained.**

None Opposed

Abstained: Gary Keclik, John Koeller

#### **50 – 12. Substantive. 11.1.1.1**

- **Comment:** This section references 62.1-2013, but the next section references 62.1-2010. Make them consistent.
- **Reason:** As noted above, having different reference years in the same document sets up potential conflicts
- **Proposed Response:** Accept as modified: Change reference in 11.2.1.1 to 62-2013 (two locations).
- **Subcommittee vote results:** Unanimously in favor

**MOTION: The motion was made and seconded to accept as modified. The motion carried with 24 in favor, none opposed, and none abstained.**

None Opposed

None Abstained

#### **24 – 19. Substantive. 11.1.2.1**

- **Comment:** “One or both of the following strategies are implemented...”
- **Reason:** As presented this criterion allows for 9 points to be earned however there is no clear reason why a user has an incentive to pursue both options if they can just as easily achieve it with one. If the 9 points are a flexible number where users can earn up to that maximum potential, provide clear language regarding the tiers for achievement.
- **Proposed Response:** Accept as modified: “~~One or both of t~~The following strategies are implemented for ventilation systems (as applicable).” Reason: to make the credit language more explicit.
- **Subcommittee vote results:** 9 in favor, 1 abstained

**MOTION: The motion was made and seconded to accept as modified.**

**Discussion took place on the motion:**

- The question was raised whether the correct changes were made at the Subcommittee level.
- The point was raised that if we want to require both we should, and that if they get full points for not doing both there is no incentive to do so.

**The motion was amended and seconded to remove “and/or” and “as applicable” leaving the rest of the change as is. The motion was then amended and seconded as follows: the following strategies are implemented... when used. The motion carried with 16 in favor, two opposed, and 4 abstained.**

Opposed: Bill Freeman, George Thompson

Abstained: Jeff Bradley, Paul Bertram, John Koeller, Kent Sovocool

### **53 – 1. Substantive. 11.1.3.2**

- **Comment:** Add following to end of sentence and fan coil housing interiors.
- **Reason:** The interior surfaces of the fan and coil housing often have friable/porous liners (i.e., fiberglass) that eventually erode and release fibers into the air or harbor microbial growth.
- **Proposed Response:** Accept as modified: Add to end of sentence: , or any fan, coil, terminal, or other devices exposed to the airstream. Reason: to expand the technical scope of the standard.
- **Subcommittee vote results:** 10 in favor, 1 abstained

**MOTION: The motion was made and seconded to accept as modified. The motion carried with 22 in favor, none opposed, and 1 abstained.**

None Opposed

Abstained: John Koeller

### **34 – 38. Substantive. 11.1.3.2**

- **Comment:** Delete section or reduce points
- **Reason:** A lot of points for something that would be part of good professional practice.
- **Proposed Response:** Reject on the basis that the practice is not universal.
- **Subcommittee vote results:** Unanimously in favor

**MOTION: The motion was made and seconded to reject. The motion carried with 21 in favor, none opposed, and one 1 abstained.**

None Opposed

Abstained:Greg Johnson

#### **48 – 13. Substantive. Table 11.2.1.1**

- **Comment:** Maximum VOC Content, 1 point
- **Reason:** The heading of the right hand column is unclear. Points should be awarded for being below the maximum.
- **Proposed Response:** Accept as modified so that it reads “VOC Content Limit, 1 point”
- **Subcommittee vote results:** 9 in favor, 1 abstained

**MOTION: The motion was made and seconded to accept. The motion carried with 21 in favor, one opposed, and none abstained.**

Opposed:Allan Bilka

None Abstained

### **Site**

The Site Subcommittee Chair was unable to give his report due to difficulties with the phone line, therefore Site Vice Chair Greg Johnson reported on the comments reviewed by the Site Subcommittee:

#### **40 – 4. General. 7.3.4**

- **Comment:** Points are awarded in Section 7.3.4-Mitigating Heat Island Effect without regard to climate zone
- **Reason:** This approach is inconsistent with high-performance green building codes/standards such as the International Green Construction Code (IgCC) and ASHRAE 189.1. The current editions of IgCC and ASHRAE 189.1 limit Heat Island Mitigation requirements on the basis of climate zone. For example, provisions in ASHRAE 189.1-2014 Section 5.3.5-Mitigation of Heat Island Effect, section 5.3.5.3-Roofs are limited to building projects in climate zones 1-3; requirements in IgCC are similar. Points should only be available for projects utilizing heat island mitigation measures in climate zones where the benefits of such measures are well founded.
- **Proposed Response A:**
  1. Some other green building standards and codes do not use climate zone exceptions.
  2. The benefits of reflective roofs have been proven beneficial in major metropolitan areas in all climate zones. Reflective roofs help reduce peak energy load in IECC climate zones 4a and 4b (3). Several major cities in climate zone 4 have adopted the use of reflective roofs on commercial, low-sloped roofs into law (2).
  3. Using light colored roofing and pavements can also benefit cities in colder climates (1). For example, in New York City (zone 4), the length of the day in December is half that of a day in June. Also, the sun is so low in the sky that it shines on only half the roof or pavement area in December versus June. In addition, New York experiences three times more cloudy days in the winter than

in the summer. When you multiply these three factors ( $1/2 \times 1/2 \times 1/3 = 1/12$ ) the potential for horizontal surfaces to absorb the sun's energy is only 1/12 in December as in June. This means that because so little sun ever reaches roofs and pavements in the winter months the benefits of lowering temperatures in the summer far outweighs raising temperatures in the winter

Reference:

(1) Painting the Town White – and Green, Lawrence Berkeley National Laboratory Urban Heat Island Group,

<http://eetd.lbl.gov/HeatIsland/PUBS/PAINTING>. Accessed August 2011

(2) Cool Policies for Cool Cities: Best Practices for Mitigating Urban Heat Islands in North American Cities

- Virginia Hewitt and Eric Mackres, American Council for an Energy-Efficient Economy Kurt Shickman, Global Cool Cities Alliance

<http://aceee.org/files/proceedings/2014/data/papers/10-356.pdf>

(3) Urban Heat Island Mitigation Can Improve New York City's Environment: Research on the Impacts of Mitigation Strategies on the Urban Environment, Rosenthal, Joyce Klein, Rob Crauderueff, and Majora Carter. 2008 <http://nrs.harvard.edu/urn-3:HUL.InstRepos:12361745>

- **Proposed Response B:** Some green building standards and codes do not use climate zone exceptions. Additionally, the benefits of reflective roofs have been proven in major metropolitan areas in all climate zones, including reduction of peak energy load in climate zones 4a and 4b. Several major cities in climate zone 4 legally require the use of reflective roofs on commercial, low-sloped roofs
- **Subcommittee vote results:** In favor: 8, Opposed: 1, Abstained: 2

**MOTION: The motion was made and seconded to reject using the reason provided today.**

**Discussion took place on the motion:**

- The question was raised whether we want to include all of the information in the Subcommittee response in the Consensus Body response to the commenter.
- The point was raised that some of the information in the longer Subcommittee reason would be helpful if it could be available upon request in some way. It was noted that commenters can request more information when they see the response and reason from the Consensus Body.

**The motion carried with 18 in favor, 1 opposed, and 2 abstained.**

Opposed: George Thompson

Abstained: John Cross, Kent Sovocool

#### **44 – 1. Substantive. 7.3.4**

- **Comment:** ~~Not applicable for climate zones 6, 7 and 8, except where there is a condensation mitigation plan provided for low slope roofs.~~
- **Reason:** 1.) The urban heat island effect is applicable to all climate zones. Climate zones 7, 7 & 8 are subjected to summer time heat waves that can result in dangerous air quality for city residents.  
2.) A SPRI study of IO cool roofs in Illinois, Massachusetts, Michigan, New Hampshire, and Pennsylvania observed some dampness or surface moisture on the backside of the membrane in three of the roofs. In every case, they found

the insulation cores to be dry, the deck was dry, and their observation was that there was no detrimental effect to the roofing systems noted. They ran two WUFI analysis for each of the roofs and assessed : once assuming a black membrane and once assuming white. They found that modest amounts of moisture could be generated under both colors of membrane, although more under the white than under the black. However, in all cases, both for black and white membranes, the calculations showed that for the moisture always dries up completely in summer, confirming that the self drying concept, the basis of roof design in America for many decades, is equally applicable under cool roofs as under dark roofs. (1) Ennis, M , Keher, M , 20]] International Roofing Symposium, Washington, DC

3.) Condensation under cool roofs is not an issue in climate zones 6, 7 & 8. The Department of Energy published a manual on guidelines for selecting cool roofs, where they addressed this allegation head-on. In their manual they note that that while this issue of condensation in roofs has been observed in both cool and dark roofs in cold climates, the authors are not aware of any data that clearly demonstrates a higher occurrence in cool roofs.(2)

(2) Urban, B., Roth PhD, K., US. Department of Energy, Building Technologies Program: Guidelines for Selecting Cool Roofs, July 2010, v 1.2

- **Proposed Response A: Accept with modification as modified:** Eliminate exclusion, include an informational reference to the Project Management 6.4.1 Moisture Control Analysis to eliminate confusion. Include as bullet:
  - “Informational Reference(s):
    - Tree City USA Bulletin #7, How to Save Trees During Construction
    - International Society of Arboriculture’s “Avoiding Tree Damage During Construction”:  
<http://www.treesaregood.com/treecare/resources/AvoidingTreeDamageAv.pdf>
    - BSR/GBI-01 201X, 6.4.1 Moisture Control Analysis”
- **Subcommittee vote results:** 10 in favor, 1 abstained.

**MOTION: The motion was made and seconded to accept with modification. The motion carried with 19 in favor, none opposed, and none abstained.**

None Opposed  
None Abstained

#### **40 – 3. Substantive. 7.3.4.1**

- **Comment:** For a *low-sloped roof* (less than or equal to ~~2:12~~ 3 in/ft. (7.6 cm/m)), a minimum initial SRI of 78 or greater;
  - For a *steep-sloped roof* (greater ~~that 2:12~~ than 3 in/ft. (7.6 cm/m)), a minimum initial SRI of 29 or greater.
- **Reason:** Without making this change the roof slopes indicted in Section 7.3.4.1 would be in conflict with the definitions for "low-sloped roof" and "steep-sloped roof" indicted in Section 5.1.

- **Proposed Response A:** Reject on the basis that this is a heat island issue not a moisture control issue.
- **Proposed Response B:** Eliminate the definitions of low-slope roof and steep-slope roof since we are defining the slopes in the text.
- **Subcommittee vote results:** 9 in favor, 2 abstained.

**MOTION: The motion was made and seconded to accept as modified with the modification to eliminate the definitions of low-slope and steep-slope roofs using Proposed Response B listed.**

**Discussion took place on the motion:**

- There was clarification on the motion that the proposed response initially listed addresses heat islands, and not the issue in the comment around roof slope. This appears to be an error and the correct Subcommittee response was listed below in the table shown during this meeting. Subcommittee members verified that this was their intended response.
- It was noted that the terms low-sloped and steep-sloped roofs have been removed from the Standard per votes in a previous meeting. Instead the parameters are listed in the language without use of the terms.
- The point was made that different industries use different parameters regarding the terms low-slope and steep-slope roofs, eliminating these terms from our Standard while keeping language specifying the parameters we are referring to prevents confusion on this issue.

**The motion carried with 18 in favor, none opposed and 2 abstained.**

None Opposed

Abstained: Susan Gitlin, Don Horn

#### **34 – 14. Substantive. 7.3.4.1**

- **Comment:** Reduce points for high SRI roofs
- **Reason:** Not right that SRI and vegetated roofs are equal points given the stormwater, bio-diversity benefits of vegetated roofs. "Hot mop" are old technology being supplanted by white single ply membranes.
- **Proposed Response A:** Reject. While the committee agrees that the benefits of a vegetated roof are greater, points are already rewarded in 7.4.1.1 and 7.5.1.7 in addition.
- **Proposed Response B:** Reject. While the committee agrees that benefits of a vegetated roof are
- greater, additional points are already rewarded in 7.4.1.1 and 7.5.1.7.
- **Subcommittee vote results:** Unanimously in favor.

**MOTION: The motion was made and seconded to reject using the reason provided today, listed as Response B above. The motion carried with 19 in favor, none opposed, and none abstained.**

None Opposed

None Abstained

#### **49 – 7. Substantive. 7.3.4.3**

- **Comment:** Clarify how future shading will be met and who is qualified to determine this.

- **Reason:** How do you measure compliance with this? Anyone can say they will have trees providing shading on a building's footprint within 15 years. Add more specificity to this credit – otherwise it is an opportunity to “game” the system
- **Proposed Response A:** Reject on the basis that the committee believes the standard language is adequate for use by a qualified professional.
- **Proposed Response B:** Reject. The committee believes the language of the section is adequate for use by a qualified professional.
- **Subcommittee vote results:** 5 in favor, 2 abstained.

**MOTION: The motion was made and seconded to reject for the reason provided today.**

**Discussion took place on the motion:**

- It was noted that projects are not always designed and developed by qualified professionals with experience in doing these types of drawings.

**The motion carried with 17 in favor, 1 opposed, and 2 abstained.**

Opposed: Karen Joslin opposed

Abstained: Susan Gitlin, Don Horn

### **Editorial Changes to Reasons**

The Chair called for a motion to allow the Secretariat to edit the approved reasons for consistency and grammar.

**MOTION: The motion was made and seconded to request that the Secretariat make edits to the approved reasons for consistency and grammar. The motion carried with 18 in favor, none opposed and two abstentions.**

None opposed

Kent Sovocool and Jeff Bradley abstained

### **Future Meetings**

Woodbury reviewed the schedule moving forward.

- The next meeting is scheduled for March 2, 2016.
- There is an in-person meeting scheduled for March 21<sup>st</sup> through 23<sup>rd</sup> in Chicago.
  - Anyone who would like to attend or having questions about the in-person meeting should contact Secretariat, Maria Woodbury, at [maria@thegbi.org](mailto:maria@thegbi.org)

### **New Business**

Reminder to the Subcommittee chairs to hold comments that they believe will be controversial to address at the in-person meeting to maximize the comments we can get through on the conference calls.

### **Adjournment**

**MOTION: A motion was made, seconded and unanimously carried to adjourn the meeting at 1:56 pm ET.**

