

Minutes

GBI Consensus Body Meeting #24

BSR/GBI 01,2016

Webinar

Wednesday, September 14th, 2016 11:00 AM ET to 3:00 PM ET

Attendance:

No	Name	Organization(s)	981482016				
1	Gregg Bergmiller	S/L/A/M Collaborative	X				
2	Paul Bertram	Kingspan Insulated Panels, Inc.					
3	Allan Bilka	International Code Council	X				
4	Jeff Bradley	American Wood Council	X				
5	William Carroll	American Chemistry Council	Proxy				
6	Chris Dixon	NBBJ (rep. self)	X				
7	Nicole Dovel, Moore	CTA Architects Engineers					
8	Amber Dzikowicz	NSF International					
9	David Eldridge	Grumman/Butkus Assoc.					
10	William Freeman	Resilient Floor Covering Institute	X (Proxy for half)				
11	Susan Gitlin	U.S. EPA	X				
12	Don Horn	GSA	X (Proxy for half)				
13	Josh Jacobs	UL Environment	X				
14	Greg Johnson	Johnson Consulting Services, Greenscape Alliance	X				
15	Karen Joslin		X				
16	Malee Kaolawanich	NIH (rep. self)					
17	Rachel Minnery	AIA					
18	Charles Kibert	University of Florida	X				
19	Gary Keclik	Keclik Associates	X				
20	Jennifer Kowalonek	Alfred Benesch & Company					

21	Thomas Pape	Alliance for Water Efficiency	X				
22	Tien Peng	National Ready Mix Concrete Assn.	X				
23	Jane Rohde	JSR Assoc. Inc., Vinyl Institute	X				
24	Gord Shymko	G.F. Shymko & Associates, Inc.	X				
25	Kent Sovocool	Southern Nevada Water Authority	Proxy				
26	Steve Strawn	JELD,WEN					
27	George Thompson	Chemical Compliance Systems, Inc.	X				
28	Angela Tin	American Lung Assn.	X				
29	Douglas Tucker	Misubishi Electric Cooling & Heating					
30	Erika Winters Downey	American Institute of Steel Construction	Alternate				
Voting Alternates							
	Abby Brokaw	American Lung Assn. (voting Alternate for Angela Tin)	X				
	Paul Karrer	AIA (Alternate for Rachel Minnery)					
	Bill Hoffman	UL Environment (Voting Alternate for Josh Jacobs)					
	Lance Davis	GSA (Voting Alternate for Don Horn)					
	D'Lane Wisner	D'Lane Wisner (Voting Alternate for William Carroll)					
	Mark Thimons	(Voting alternate for Erika Winters, Downey)					
	John Cross	American Institute of Steel Construction (Voting Alternate for Erika Winters,	X				

		Downey)					
TOTALS		21					
VISITORS							
	Martha VanGeem	Self (Principal Engineer)	X				
	Kyle Thompson	IAPMO					
	Kelly Scanlon	U.S. EPA					
	Heather Dylla	National Asphalt Pavement Assn.					
	Wes Sullens	Stopwaste.org					
	Paula Melton	BuildingGreen, Ince					
	Christian Taber	Big Ass Consulting					
	Allison Kinn Bennett	U.S. EPA					
	Jay Thomas	Sika					
	Gary Madaras						
	Abby Brokaw		X				
	Dave Panning						
	Bradley Gramms						
	Katie Chapman						
	Mike Cudahy		X				
	Ed Deomano		X				
STAFF/CONSULTANTS							
	Michael Lehman	Chair	X				
	Vicki Worden	Executive Director, GBI					
	Emily Randolph	Secretariat Asst., GBI	X				
	Micah Thomas	Staff, GBI					
	Maria Woodbury	Secretariat, GBI	X				
	Chelsea Amaio	Staff, GBI					
	Kim Goldsworthy	Roberts, Rules Consulting	X				
	Charles Kibert	Stand, in Chair for Mike Lehman					

Wednesday, September 14th, 2016

Welcome & Roll Call

Secretariat, Maria Woodbury welcomed participants and conducted roll call to establish quorum. The anti-trust 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.

Woodbury reviewed the membership roster, stating that there were no changes since the previous meeting.

At this meeting, one member voted by alternate, John Cross for Erika Winters, Downey. There were 4 members voting via proxy Tien Peng for Kent Sovocool, Jane Rohde for Bill Carroll, Susan Gitlin for Don Horn, and George Thompson for Bill Freeman.

Administrative Procedures and Related Matters

Opening Comments by Michael Lehman

Chair, Mike Lehman, welcomed participants and thanked them for their time. Lehman reminded participants not to reiterate someone else's comments unless adding something new and on topic to the discussion.

Per Roberts Rules, Michael asked the Consensus Body if there are any edits to the CB Meeting #23 minutes. There were no edits proposed by members and the minutes were approved by assuming the motion with approval from the parliamentarian on retainer.

Discussion of public comments

Materials

Presented by Charles Kibert, chair of the Materials Subcommittee.

- **34 – 37. Substantive. 10.7.1**
 - **Comment:** Delete this section
 - **Reason:** This is a very broad criteria that would be difficult to calculate and evaluate. Additionally, non,prefab, non,assembled and non,modular material selection can have as big or larger impact; this is more appropriately considered in life cycle assessment.
 - **Proposed Response:** Reject. Retaining this section encourages minimizing use of raw materials and minimizing waste through preconstruction activities. The definitions have been clarified for modular construction and prefabrication.
 - **Subcommittee Vote:** 9 in favor, none opposed, 1 abstained.

Motion: The motion was made and seconded to accept the subcommittee's proposed response.

Discussion on the Motion:

- A question was raised whether this should be "accept as modified"?
- It was stated that the Consensus Body would be rejecting the comment and modifying the Section.
- It was stated that this is hijacking a comment if we say "accept as modified" because the change has nothing to do with the comment. The speaker was speaking in favor of the principle, but stated we need to reject comment and create a new amendment. Otherwise, this is a disservice

to the process. The sentiment was echoed that the principle is correct, but there needs to be a separate motion.

- It was stated this criteria does not address a lot of environmental issues.
- Returning to the question of whether to Accept as Modified or reject, it was stated this should be reject because “accepting as modified” invites the commenter to come back to respond.
- Another member added rejecting would support the rationale that has already been created by the Subcommittee.
- Chairman clarified that rejecting and amending the current wording of the Standard for clarification is perfectly acceptable.

VOTE: The motion carried with 14 in favor, 2 opposed, and two abstained.

Opposed: Susan Gitlin and Thomas Pape

Abstained: Gord Shymko and Josh Jacobs

- **7 – 18. Substantive. 10.6.1.3**
 - **Comment: 10.6.1.3 “Maximum = 10 5-points”** *(Remainder not shown)*
 - **Reason:** Waste minimization is an important step in constructing a sustainable building and the associated steel organizations represented here applaud the consensus body for pushing the limit of current standards to encourage minimization in lieu of simple diversion. However, the points allocated for minimization in this context are too minimal. Section 10.6.1.3 should have more points allocated than 10.6.1.4 (diversion). A minimum of 10 points should be awarded for minimization as opposed to five for diversion. Awarding a maximum of 25 points for the whole construction waste section (10.6) puts it on par with 10.2, Product Life Cycle, demonstrating the importance of waste management.
 - **Proposed Response:** Accept as Modified to increase the points to 8. Minimization of overall site waste should be weighted heavier than simple diversion. The three additional points came from a section that we previously voted to reduce the points in.
 - **Subcommittee Vote:** 4 in favor, 3 opposed, 1 abstained.

Motion: The motion was made and seconded to accept the proposed response.

Discussion on the Motion:

- The concern was raised that allocating point totals via Public Comment is not a good practice moving forward. The speaker said it is also a question that cannot be resolved at this time considering the fact a Points Allocation Task Group is working on this.
- It was stated this is addressing minimizing vs. diversion.
- It was clarified points can be addressed via comments with the understanding that they may change after the Points Task Group provides a recommendation to the Consensus Body.
- Clarification was provided that the Subcommittee had 10 points unallocated and there was a discussion at the Subcommittee level about where to allocate the points. Three of those points went to addressing this comment.

Amendment: The amendment was made and seconded to add the reason, “It should be noted that points are potentially subject to revision by the committee at a future time.” There were no objections to the amendment.

Discussion on Amended Motion:

- The sentiment echoed that it’s premature to do points allocation
- It was stated this is accepting the principle of the comment.

VOTE: The amended motion carried with 15 in favor, 2 opposed, and 1 abstained.

Opposed: Chris Dixon, Jeff Bradley

Abstained: Thomas Pape

- **No Comment. 10.6.1.4**

- **Subcommittee Proposal:** Revise the point allocation structure for 10.6.1.4 in order to streamline and simplify the waste diversion tiers.
- **Subcommittee Vote:** 6 in favor, 1 opposed, none abstained

Motion: The motion was made and seconded to accept the Subcommittee's proposed response.

VOTE: The motion carried with 15 in favor, none opposed, and 3 abstained.

Opposed: none

Abstained: Chris Dixon, Jeff Bradley, Thomas Pape

It was noted that the following had been reviewed by Charles and a small group but have not been voted on by the full Subcommittee.

- **18 – 2. Editorial. 5.1**

- **Comment:** post,consumer recycled ~~content~~material
- **Reason:** To match the term in ISO 14021. "Recycled content" is defined as a proportion of recycled materials in a product or packaging.
- **Proposed Response:** Reject. The term actually being defined is "post,consumer recycled content" not "post,consumer recycled material."
- **Note:** Overlooked Comment, caught at last minute, worked by Subcommittee Chair and a small group online.

Motion: The motion was made and seconded to accept the small group's proposed response.

VOTE: The motion carried with 17 in favor, none opposed, and 1 abstained.

Opposed: none

Abstained: Susan Gitlin

- **18 – 3. Editorial. 5.1**

- **Comment:** pre,consumer recycled ~~content~~material: material diverted from waste stream during a manufacturing process. Excluded is reutilization of material such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it. This type of recycled material is often referred to as post,industrial waste.
- **Reason:** To match the term in ISO 14021. "Recycled content" is expressed as proportion or % of recycled material in a product or packaging.
- **Proposed Response:** Reject. The term actually being defined is "pre,consumer recycled content." Not "pre,consumer recycled material."
- **Note:** Overlooked Comment, caught at last minute, worked by Subcommittee Chair and a small group online.

Motion: The motion was made and seconded to accept the small group's proposed response.

Discussion on the Motion:

- Clarification was provided that the motion is to reject the whole comment and not just the last part.
- As it stands, the Subcommittee prefers to leave the definition as it stands and not add to it.
- A participant spoke in favor of this comment but stated a similar was rejected, so for consistency sake, this should also be rejected.

VOTE: The motion carried with 15 in favor, none opposed, and 2 abstained.

Opposed: none

Abstained: Susan Gitlin, Allan Billka

- **18 – 4. Editorial. 5.1**

- **Comment:** recovered [reclaimed] material
- **Reason:** To match the term in ISO 14021
- **Proposed Response:** Accept
- **Note:** Overlooked Comment, caught at last minute, worked by Subcommittee Chair and a small group online.

Motion: The motion was made and seconded to accept the small group's proposed response.

Discussion on the Motion:

- Clarification was provided as to why we match the term on this while we haven't always done so.
- This is clarifying what the definition is to the commenter.

VOTE: The motion carried with 15 in favor, 1 opposed, and 2 abstained.

Opposed: Thomas Pape

Abstained: Susan Gitlin, Allan Billka

- **7 – 5. Substantive. 5.1**

- **Comment: Total Material Value (TMV):** the invoiced cost of materials and products as received by the contractor, permanently installed in the building project, not including the contractor's profit, overhead, or labor. Alternatively, 45% of the total construction cost may be used to establish the Total Material Value.
- **Reason:** The definition is unclear as to whose profit, overhead or labor is excluded. The intent is assumed to be that of other codes, standards and rating systems that calculate the Total Material Value as the sum of the invoiced amounts for materials and products delivered to the job site. In that the case, the profit, overhead and labor of the material or product supplier is included in the invoice and is considered part of the Total Material Value, but the general contractor is not allowed to include his labor, markup, overhead or profit for installation or subcontracts for product installation.
- **Proposed Response:** Accept with Modification. Delete "Alternatively, 45% of the total construction cost may be used to establish the Total Material Value."
- **Note:** Overlooked Comment, caught at last minute, worked by Subcommittee Chair and a small group online.

Motion: The motion was made and seconded to accept the Small group's proposed response.

Discussion on the Motion:

- It was stated that members were not able to review these comments before the call and therefore can't make informed votes.
- Clarification was provided on the final response; this makes it harder for the person trying to use the Standard to determine a value.
- Another speaker disagreed, stating this makes it easier because raw costs of materials are taken out, which is the part that is a challenge due to variability in costs.
- One speaker argued leaving this option out makes it hard for any user to gain points for materials value. It would also be harder to go back in the supply chain to get information as that might be considered proprietary information.
- Sentiments were echoed about the increasing difficulty. It was also stated that, deleting this language is not in response to a public comment and therefore shouldn't happen.

- Another speaker stated 45% is probably more accurate than trying to get the layers of information out of contractors on the job.
- Another clarified that this was not vetted by analysis. 45% is arbitrary and excludes various types of things. The first part of this response includes everything and the 2nd excludes which is therefore inconsistent. It needs to be one or the other or language needs to be amended.

VOTE: The motion failed with 6 in favor, 13 opposed, and 0 abstained.

Opposed: John Cross, Susan Gitlin, Greg Johnson, Allan Billka, Gord Shymko, Josh Jacobs, Gary Keclik, Gregg Bergmiller, Thomas Paper, Don Horn, Tien Peng, Kent Sovocool, Jeff Bradley

Abstained: none

Motion: The motion was made and seconded to insert the phrase “the contractors” and accept the comment.

Vote: The motion carries with 18 in favor, none opposed, none abstained.

Opposed: none

Abstained: Chris Dixon

- **18 – 5. Editorial. 5.1**
 - **Comment:** recycled content: proportion, by cost or ~~weight~~ mass, of recycled material in a product or packaging.
 - **Reason:** To match the definition in ISO 14021
 - **Proposed Response:** Accept
 - **Note:** Overlooked Comment, caught at last minute, worked by Subcommittee Chair and a small group online.

Motion: The motion was made and seconded to accept the small group’s proposed response.

VOTE: The motion carried with 15 in favor, 1 opposed, and 3 abstained.

Opposed: Thomas Pape

Abstained: Susan Gitlin, Allan Billka, Don Horn

Discussion:

- Clarification was provided on what was voted on. There was confusion due to words added and struck through from previous action taken by the ConsensusBody.
- **52 – 48. Substantive. 10.3**
 - **Comment:** Green building standards should incentivize an approach based in Green Chemistry addressing the **intrinsic hazards of materials and chemicals**. Here is some proposed text:

Safer Chemicals – Avoidance of Chemicals with Specific Hazard Endpoints

Credit shall be given for the specification and installation of products in the following building product categories , paints, coatings, adhesives, sealants, elastomers, binders, spray and extruded polyurethane, polyisocyanurate, and polystyrene foams, pressed wood, plywood, and wallboard –that upon completion of a hazard assessment where chemical hazard(s) have been identified, the safer available alternative(s) is used in the manufacture of the product. If alternative safer chemicals are not available, consider use of alternative products or processes. Document any findings regarding the availability and choice of using safer alternatives, including any additional market assessments performed.

Carcinogenicity

Demonstrate that the product inventory does not contain any constituents deemed to be known or probable human carcinogens.

If the product does contain a known carcinogen, the manufacturer must demonstrate that it is present at a concentration that corresponds to a very low risk (e.g. < 10,6 individual lifetime risk) under expected exposure conditions for specific uses/application.

Consult the following sources to identify carcinogens and accepted guidelines for assessing carcinogenic risk. Carcinogens listed in any of the following sources must meet the requirements of this practice.

• National Toxicology Program: Known to be Human Carcinogens, Reasonably Anticipated to be Human Carcinogens:

<http://ntp.niehs.nih.gov/?objectid=035E57E7,BDD9,2D9B,AFB9D1CAD8D09C1>

• EPA Integrated Risk Information System (IRIS): "Carcinogenic to Humans," "Likely to Be Carcinogenic to Humans:" <http://www.epa.gov/IRIS/index.html>

• International Agency on the Research of Cancer (IARC): "Carcinogenic to Humans," "Probably carcinogenic to humans:" <http://monographs.iarc.fr/ENG/Classification/index.php>

• Guidelines for Carcinogen Risk Assessment (2005). <http://epa.gov/cancerguidelines/>

• Guidelines for Exposure Assessment.

<http://www.epa.gov/raf/publications/guidelines,for,exposure,assessment.htm>

Reproductive Toxicity

Demonstrate that the product inventory does not contain any constituents that are deemed to be reproductive toxicants.

If the product does contain a known reproductive toxicant, the manufacturer must demonstrate that it is present at a concentration that corresponds to a very low risk (e.g. Hazard Quotient < 1) under expected exposure conditions for specific use/application.

Consult the following sources to identify reproductive toxicants and accepted guidelines for assessing reproductive risks. Toxicants listed in any of the following sources must meet the requirements of this practice:

• California Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65):

<http://oehha.ca.gov/prop65/law/P65law72003.html>

• EU Risk Phrases (R60: May impair fertility; R62: Possible risk of impaired fertility;

EU Hazard Statements (H360 May damage fertility or the unborn child; H361 Suspected of damaging fertility or the unborn child; H362 May cause harm to breast, fed children).

• Guidelines for Reproductive Toxicity Risk Assessment.

<http://www.epa.gov/raf/publications/guidelines,reproductive,tox,risk,assessment.htm>

Developmental Toxicity

Demonstrate that the product inventory does not contain any constituents that are deemed to be developmental toxicants.

If the product does contain a known developmental toxicant, the manufacturer must demonstrate that it is present at a concentration that corresponds to a very low risk (e.g. Hazard Quotient < 1) under expected exposure conditions for specific use/application.

Consult the following sources to identify reproductive or developmental toxicants and accepted guidelines for assessing developmental risks. Toxicants listed in any of the following sources must meet the requirements of this practice.

- California Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65):
<http://oehha.ca.gov/prop65/law/P65law72003.html>
- EU Risk Phrases (R61: May cause harm to the unborn child; R63: Possible risk of harm to the unborn child; and R64: May cause harm to breast, fed babies):
- EU Hazard Statements (H360 May damage fertility or the unborn child; H361 Suspected of damaging fertility or the unborn child; H362 May cause harm to breast, fed children).
- Guidelines for Developmental Toxicity Risk Assessment.
<http://www.epa.gov/raf/publications/guidelines,dev,toxicity,risk,assessment.htm>

Persistence, Bioaccumulation, and Toxicity (PBT)

Demonstrate that the product inventory does not contain any constituents deemed to be persistent, bioaccumulative, and toxic chemicals (PBTs).

If the product does contain a known PBT, the manufacturer must demonstrate that it is present at a concentration that corresponds to a very low risk under expected exposure conditions for specific use/application.

Consult the following sources to identify PBTs. PBTs listed in any of the following sources must meet the requirements of this practice.

- Stockholm Convention on Persistent Organic Pollutants:
<http://chm.pops.int/Convention/tabid/54/Default.aspx>
 - Canada , U.S. Great Lakes Binational Toxics Strategy:
<http://www.epa.gov/greatlakes/p2/bnsintro.html>
 - EPA Toxic Release Inventory (TRI) known persistent, bioaccumulative, and toxic chemicals and compounds:http://www.epa.gov/tri/trichemicals/pbt%20chemicals/pbt_chem_list.htm
 - Waste Minimization Priority Chemicals:
<http://www.epa.gov/osw/hazard/wastemin/priority.htm>
- Additional information and guidance available at:
<http://www.epa.gov/opptintr/newchems/pubs/pbtpolcy.htm>

Criteria for Specific Chemicals and Uses

Paints, coatings, plastics, rubbers and seals shall be free from flame retardants and / or softeners containing SCCPs [short, chained chlorinated paraffins] (not more than 0.1 percent by weight), 10 carbon atoms to 13 carbon atoms, minimum 48 percent chlorine by weight, unless it can be shown that the SCCPs are present above this threshold due to the use of recycled content.

Paints, coatings, plastics, rubbers and seals shall be free from flame retardants and / or softeners containing PBDEs and HBCD.

Perfluorochemicals used in surface coating and protectant formulations for paper and cardboard packaging products; carpets; leather products; and textiles that repel water, grease, and soil. PFCs have also been used in fire, fighting foams and in the production of nonstick coatings on cookware and some waterproof clothes. etc.

Coatings shall not contain long,chain perfluorinated chemicals
(<http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/pfcs.html>).

Textiles, paints, printing inks, and paper shall be free of benzidine and benzidine congener, based dyes.

Note that EPA has proposed a rule regarding formaldehyde and composite wood products >
<http://www2.epa.gov/formaldehyde/formaldehyde,emission,standards,composite,wood,products#proposedrule>

- **Reason:** An intrinsic hazard is the potential for harm based on the chemical structure and properties that define its ability to interact with biological molecules. A hazard, based approach, grounded in Green Chemistry principles, can reduce the use of hazardous substances, and lower overall risk to people and the environment. Key to this approach is an understanding of the potential hazards of chemicals in products and availability of safer alternatives. Generally speaking, “hazardous chemicals” are those which have a human or environmental toxicity profile such that exposure to people or flora/fauna in the environment could lead to adverse health impacts. Consistent with Green Chemistry principles and established methods for risk assessment and management, green building and product standards should lower overall risk to people and flora/fauna present in the environment. Key to this approach is to understand how the reduction of human and ecological health hazards can contribute to overall risk reduction. Steps can then be taken to decrease the hazards of product ingredients through: ingredient substitution; alternative design approaches; and/or reducing relevant exposures to people using products or flora/fauna present in the environment. Green building and product standards should also assess the potential trade,offs associated with alternatives/substitutes elsewhere in a product's lifecycle and impacts on the functional ("fitness for use") performance of the product.

Consider the following hierarchy of controls principles (as mandated by OSHA) for worker exposures:

- *Elimination of hazard*
- *Substitution – replace high hazard with low hazard*
- Engineering – ventilation and/or enclosure
- Administrative – training, job rotation, procedures, and policy
- Protective Clothing and Equipment – use of respirators, ear plugs, gloves

Several of the hazard endpoints proposed for criterion list information sources to consult. These are by no means a comprehensive list of all possible sources. Please also consider the following information sources when attempting to identify if a particular chemical has the potential to be a hazard endpoint:

- The Toxic Substance Control Act Test Submission Database (TSCATS):
<http://www.ntis.gov/products/ots.aspx> and
<http://yosemite.epa.gov/oppts/epatscat8.nsf/ReportSearch?OpenForm>
- Hazardous Substances Data Bank (HSDB): <http://toxnet.nlm.nih.gov/>
- Integrated Risk Information System (IRIS): <http://www.epa.gov/IRIS/>
- The National Toxicology Program (NTP): <http://ntp.niehs.nih.gov/>
- US EPA HPV Challenge Program: <http://www.epa.gov/hpv/>
- The Distributed Structure,Searchable Toxicity Database Network (DSSTox):
<http://www.epa.gov/ncct/dsstox/>

- Registry of Toxic Effects of Chemical Substances (RTECS):
<http://accelrys.com/products/databases/bioactivity/rtecs.html>
 - International Uniform Chemical Information Database (IUCLID):
http://www.oecd.org/document/46/0,3746,en_2649_34379_2501870_1_1_1_1,00.html#International_Uniform
 - Acute Exposure Guideline Levels (AEGLS):
<http://www.epa.gov/oppt/aegl/pubs/chemlist.htm>
 - The Agency for Toxic Substances & Disease Registry (ATSDR) Toxic Substances Portal: <http://www.atsdr.cdc.gov/substances/index.asp>
 - US EPA: Public Databases Routinely Searched for Hazard Information:
<http://www.epa.gov/hpvis/hazardinfo.htm>
 - U.S. Environmental Protection Agency's (EPA) Safer Choice Program , DfE's Alternatives Assessment Criteria: http://www2.epa.gov/saferchoice/design_environmentalternativesassessments
 - *GreenScreen*® for Safer Chemicals:
<http://www.cleanproduction.org/Greenscreen.php>
 - SUBSPORT Restricted and Priority Substances Database:
http://www.subsport.eu/list_of_lists_database
- **Proposed Response:** Reject. The subcommittee has decided to incorporate a risk, based approach versus a hazard, based approach.
 - **Note:** Overlooked Comment, caught at last minute, worked by Subcommittee Chair and a small group online.

Motion: The motion was made and seconded to accept the small group's proposed response to reject the comment.

Discussion took place on the Motion:

- A participant raised the point that other comments recommending Hazards, based approach have been voted consistent with this one.
- A question was raised whether the Materials group knows of any other green building Standards using this approach, also stating if we want to protect people from these chemicals, we need a hazards, based approach. GBI may be opening themselves up to criticism.
- Another responded that initial approaches since 2008, have been hazards, based approach but if you look at all of them, they now incorporate risks, based assessment. Hazards, approach is not science, based according to the speaker.
- Disagreement with the above point was expressed.
- It was stated GBI is the first to develop a complete assessment on Risk and Hazards. This is the world of the future.
- It was stated that this is intentional in terms of the way the world is moving.

VOTE: The motion carried with 14 in favor, 4 opposed, and 1 abstained.

Opposed: Susan Gitlin, Don Horn, Tien Peng, and Kent Sovocool

Abstained: Josh Jacobs

Indoor Environmental Quality Comments

Presented by vice chair of the Subcommittee, Chris Dixon.

- **24 – 27. Substantive. 12.**
 - **Comment:** "ASA / INC / NCAC Interim Sound and Vibration Design Guidelines for Hospital and Healthcare Facilities, year"

- **Reason:** Provide the missing year for the guidelines.
- **Proposed Response:** Accept. We will verify the year.
- **Subcommittee Vote:** 8 in favor, none opposed, none abstained.

Motion: The motion was made and seconded to Accept as modified. Strike altogether as reference is outdated. Replace with Facility Guidelines Initiative (Header) referencing Guidelines for Design and Construction of Hospital and Outpatient Facilities, and Guidelines for Design and Construction of Residential Health, Care, and Support Facilities (both 2014).

Discussion took place on the Motion:

- Clarification was requested whether these documents were developed under an ANSI consensus process. The response was the only part that aren't ANSI is manufacturing because that is not included in the process but this process is adopted by states. There are over 40 experts within the guideline development.
- It was stated the only place found this interim doc is used was informational references. This motion is correct. Clarification was provided that this does include sound and vibration.
- Concern was raised by a participant speaking against the motion that there are other things besides just sound in these documents, and we're voting on something that many are not knowledgeable on.
- Another responded that the Consensus Body, relies on the expertise of Subcommittee subject matter experts to provide guidance on votes based on the recommendations provided.

Amendment: The amendment was made and seconded to say "Section X of...[under actual credit]" until it's updated with current information.

Discussion took place on Amendment:

- It was stated that the federal government references these guidelines.
- Another speaker disagreed stating there are many things the government uses that don't factor in sustainability, this should not be the reason we use it.
- One speaker speaking in opposition to the motion stated they are in favor of referencing the whole guideline as opposed to tying our hands by referencing such specific parts.

VOTE: The amendment carried with 12 in favor, 4 opposed, and 2 abstained.

Opposed: Karen Joslin, Greg Johnson, George Thompson, and Gary Keclik

Abstained: Gord Shymko, and Jeff Bradley

VOTE: The amended motion varied with 19 in favor, none opposed, none abstained.

Opposed: none

Abstained: none

- **48 – 14. Substantive. 11.2.2.1**
 - **Comment:** Silica dust should be included in the Pre,Occupancy Testing. Several categories of construction materials containing crystalline silica are predominant in buildings and care should be taken to minimize exposure to occupants to this respiratory agent.
 - **Reason:** Provide points and pathway to measure crystalline silica in pre,occupancy testing.
 - **Proposed Response:** Accept as modified. Insert Silica into Table 11.2.2.1 using language provided by the commenter.
 - **Subcommittee Vote:** 7 in favor, none opposed, 2 abstained.

Motion: The motion was made and seconded to accept the Subcommittee's proposed response.

Discussion took place on the Motion:

- There was discussion on a Subcommittee call around whether this is routine/can be done at a practical cost. It's debatable.
- A participant speaking against the motion stated this is not the right time or best way to capture it.
- Sentiment was echoed that this is costly and is more of a construction hazard.

VOTE: The motion failed with 1 in favor, 17 opposed, and 2 abstained.

Opposed: Karen Joslin, Chris Dixon, Jane Rohde, William Carroll, Greg Johnson, Jeff Bradley, Allan Billka, Gord Shyko, George Thompson, Angela Tin, Josh Jacobs, Gary Keclik, Thomas Paper, Charles Kibert, Don Horn, Tien Peng, and Kent Sovocool

Abstained: Susan Gitlin, and Gregg Bergmiller

Motion: The motions was made and seconded to reject the comment. The time that this test is taking place would not be appropriate to capture silica dust and the reference methodology would not always capture silica dust levels.

Discussion took place on the motion:

- It was stated the word airborne should be added because that is the part we are concerned about.
- Another speaker agreed, but stated this methodology is only about sucking things into a tube, not in a vacuum.
- The point was made even if it is redundant, it should still be added for clarity.

Editorial amendment made and seconded to specify "airborne". There were no objections to the amendment.

Vote: The motion carried with 17 in favor, none opposed, 1 abstained.

Opposed: none

Abstained: Susan Gitlin

- **53 – 3. Substantive. 11.2.2.1.1**
 - **Comment:** Replace ~~The testing takes place after construction ends and prior to occupancy~~ with The testing takes place within two weeks of occupancy during a time when the building is minimally occupied.
 - **Reason:** In the real world there is seldom a time frame between construction ending and occupancy. Punch list items are often dealt with after occupancy. Also, last minute touch ups and cleaning are often done just before occupancy or sometimes after. Occupants may add VOCs from personal care products, cooking, equipment use, etc. As such the testing should be done when these things are minimized (i.e., minimal building occupancy such as at night or on weekends).
 - **Proposed Response:** Accept as modified. "To determine that the indoor air quality is acceptable upon Substantial Completion but prior to occupancy," This allows testing to occur during punch list item construction. Proposed language to conduct testing during occupancy or minimally occupied buildings is rejected on the basis that the purpose of the test is to prove that good indoor air quality has been achieved prior to occupancy. Note: Add definition of Substantial Completion. Refer to AIA A201.
 - **Subcommittee Vote:** 8 in favor, none opposed, 1 abstained

Motion: The motion was made and seconded to accept the Subcommittee's proposed response.

Discussion took place on the Motion:

- Question was raised on whether the Standard generally capitalizes defined terms or italicizes them. It was stated they are generally italicized unless It's specified to capitalize.
- One speaker stated they can't support this unless something related to wet products is included.

- Our intention is actually to reject the comment. This is done prior to occupancy.

Amendment: The amendment was made and seconded to change to “Reject”, leaving the rest of the response the same. Objections were raised to the amendment.

Discussion on Amendment:

- Concern was raised that this isn’t an amendment, it is a new motion. The first motion needs to be voted on. Clarification was provided that this is correct procedure from a parliamentary perspective.
- It was stated the proposed language is rejecting the comment. The amendment is saying reject instead of accept without changing the principle meaning of the response.

VOTE: The amendment carried with 13 in favor, 5 opposed, and 3 abstained.

Opposed: Allan Billka, Day Keclik, Thomas Pape, Susan Gitlin, and Don Horn

Abstained: John Cross

Discussion took place on amended motion:

- Concern was raised that the definition of “Substantial Completion” still needs to be added. This is too subjective to vote on without seeing the definition.

VOTE: The amended motion carried with 14 in favor, 6 opposed, none abstained.

Opposed: Karen Joslin, John Cross, Susan Gitlin, Don Horn, Allan Billka, and Thomas Pape

Abstained: none

Procedural clarification was provided that there is quorum and members who had to leave the call early had previously assigned proxies for the second half of the meeting.

- **20 – 1. Editorial. 11.5.2.1**
 - **Comment:** ~~3~~2 points
 - **Reason:** Section 11 has a total of 150 points, but there is an extra point in the acoustic section making it 151 points. In 11.5.2.1 the point opportunity should be changed to 2 instead of 3 to comply with the total points.
 - **Proposed Response:** Accept.
 - **Subcommittee Vote:** 9 in favor, none opposed, 1 abstained

Motion: The motion was made and seconded to accept the subcommittee’s proposed response.

Discussion took place on the Motion:

- We are voting on something that no longer exists.
- Question if we can amend a motion.

Amendment: The amendment was made and seconded to change to “Reject”. The section no longer exists. Opposition was raised to the amendment.

- Concern was raised that if we are addressing a comment for the first time, this is at the same time as other comments from this comment period, not sequential because they are being voted on out of order.
- Discussion took place on whether this is procedurally correct, regarding order of actions taken on comments. A question was raised regarding how to respond to deleted language in the Standard that still has unaddressed comments pertaining to that language.

Opposition to the amendment was withdrawn

- One participant speaking in support of the amendment stated each response to public comments needs to stand by itself because the decision to delete language in the Standard still needs to go to Public Comment which could change the eventual outcome of decisions made during this stage of addressing public comments.

- Another responded that this could be interpreted as overriding the Consensus Body’s previous decision to delete.

VOTE: The motion carried with 15 in favor, 2 opposed, and 3 abstained.

Opposed: Susan Gitlin and Thomas Pape

Abstained: Charles Kibert

,,,,Break until 1:20 ET,,,,

Site:

Presented by Gregg Bergbilller, chair of Site Subcommittee

- **26 – 2. Substantive. NEW**
 - **Comment:** Shared Parking
 - **Reason:** Reduces land and resources dedicated to parking cars
 - **Proposed: Response:** Reject. The commenter did not provide specific language to address the concerns.
 - **Subcommittee Vote:** 4 in favor, 2 opposed, and none abstained

Motion: The motion was made and seconded to accept the subcommittee’s proposed response.

Discussion took place on the Motion:

- We should change the response to invite the commenter to come back with specific language suggestions. They aren’t required initially to provide alternatives when disagreeing with parts of the Standard.

Amendment: The amendment was made and seconded to change the committee’s proposed response to “Reject. The Consensus Body finds that the information provided in the comment is insufficient to take action.” **Objection was raised to the amendment.**

Discussion took place on the Amendment:

- It was stated accepting ideas without structure or specific recommended language is an endless cycle. Other committees request commenters to provide specific language to reflect what they are trying to achieve.
- It was stated this is not an international committee. We should accept public comments from people who know construction but may not know legislative language or process but we still need and want their ideas.

VOTE: The Amendment carried with 14 in favor, 2 opposed, and 3 abstained.

Opposed: Allan Billka and Greg Johnson

Abstained: Bill Freeman, Jane Rohde, and William Carroll

VOTE: The amended motion carried with 18 in favor, none opposed, 3 abstained.

Opposed: none

Abstained: Jane Rohde, William Carroll, and Thomas Pape

- **26 – 3. Substantive. NEW**
 - **Comment:** Structured Parking
 - **Reason:** Reduces land and resources dedicated to parking cars
 - **Proposed: Response:** Reject. The commenter did not provide specific language to address the concerns.
 - **Subcommittee Vote:** 4 in favor, 2 opposed, and none abstained

Motion: The motion was made and seconded to accept the Subcommittee’s proposed response.

Amendment: The amendment was made and seconded to amend the response so it’s identical to previous. **Objection was raised to the amendment.**

Discussion took place on the Amendment:

- A speaker opposed to the motion stated the previous answer does not specifically request language suggestions and therefore is not meeting our needs.
- The point was made that people who have essential background on sustainability and construction issues may not have legislative language experience and the Standard will ultimately lose out if comments submitted are not taken seriously. The GBI process is intended to invite more people.
- Another stated if commenters can not submit initial language changes, one might assume they the commenter does not understand the initial language they are trying to amend.

VOTE: The amendment carried with 12 in favor, 7 opposed, and 1 abstained.

Opposed: Chris Dixon, Bill Freeman Greg Johnson, Allan Billka, George Thompson, Jeff Bradley, and Thomas Pape

Abstained: Josh Jacobs

Vote: The amended motion carries with 18 in favor, 1 opposed, and 1 abstained.

Opposed: George Thompson

Abstained: Thomas Pape

- **26 – 4. Substantive. NEW**
 - **Comment:** Flexible Work – Encourage programs such as 4 day, 10 hour work week. Work from home, hoteling and similar programs
 - **Reason:** Reduces electricity use by nearly shutting down facility for 1 out of 5 days per week. Reduces transportation for employees by 20 percent for 1 less day of work. Reduced construction of office and other space if someone works from home or shares common work space.
 - **Proposed: Response:** Reject. This is an issue of operations, not building construction.
 - **Subcommittee Vote:** 6 in favor, none opposed, and none abstained

Motion: The motion was made and seconded to accept the Subcommittee’s proposed response.

VOTE: The motion carried with 14 in favor, none opposed, and none abstained.

Opposed: none

Abstained: none

- **49 – 18. Substantive. 7.3.4**
 - **Comment:** If 7.3.4.3 is kept, I would suggest that a recommended document include what trees are being used to earn the shading credit and how big they are supposed to grow within 15 years and how much of the parking surface will be shaded by these trees
 - **Reason:** This document would lend more credence to this credit and would assist verifying compliance with this credit
 - **Proposed: Response:** Accept as modified. The language was modified to address the comment’s concern about providing sufficient direction to the designer relative to shading plans. We’re looking for information from the landscape architect to show how the shading credit is earned. The percentage of hardscape is included in the points column. We changed it to 10 years, and specified that a 10,year hardscape shading plan be provided under recommended documentation. Also added “Where the hardscape surfaces are not shaded by the primary buildingstructure.
 - **Subcommittee Vote:** 8 in favor, none opposed, 1 abstained.

Motion: The motion was made and seconded to accept the Subcommittee’s proposed response.

Discussion took place on the Motion:

- Speaking in support of the motion, one participant asked at what point in the day would shading would be measured. An answer was provided that this can be addressed in 2nd round public comment to make it more specific.
- Clarification was provided that the intent is to include this in the shading plan.

Amendment: The amendment was made and seconded to amend the response: “In addition the point in time of the shading measurement will be designated as 12 noon Standard Time on the Summer Solstice and shall be documented in the shading plans.

Discussion took place on the Amendment:

- This amendment is just a comment. It is not any action that can be voted on.

Amended Amendment: The above language will be inserted in the draft “following 10 years”.

No Objections were raised to this amendment.

VOTE: The amended motion carried with 18 in favor, none opposed, and none abstained.

Opposed: none

Abstained: none

- **39 – 1a. Substantive. 7.4.1.1.1**
 - **Comment:** *7.4.1.1 There is a Stormwater Management Report by a Civil Engineer that shows the following:*
7.4.1.1.1: ~~The project meets a minimum of 80% TSS (Total Suspended Solids) Removal or complies with municipal and/or local watershed water quality control targets, whichever is more stringent ; and~~ Water Quality
Tier 1: The treatment goal for this credit is 50% annual average total phosphorus (TP) removal assuming typical pollutant concentrations in urban runoff. Infiltration may not be used as a treatment method if site is located within one quarter mile of a lake or wetland.
Tier 2: The treatment goals for this credit includes the control of nutrients, alkalinity, and pH. The target pollutant removals are as follows:
 - Total phosphorus reduction of 50%
 - Nitrate + nitrite reduction of 40%
 - pH below 6.5
 - Alkalinity below 10 mg CaCO₃/L.Infiltration may not be used as a treatment method if the site is located within one quarter mile of a lake or wetland.
Provide documentation that selected treatment technologies have been approved by a governmental agency to provide the level of treatment declared.
Informational Reference(s):
http://water.epa.gov/infrastructure/greeninfrastructure/gi_modelingtools.cfm
 - **Reason:** I really feel this credit is weak: For water quality 7.4.1.1.1: 80% TSS removal seems to be pretty easy. You basically can achieve with a detention pond on site, which I think is already required in most of the urban US (?). And it is not specific on what is target you are trying to remove , pollutants and pathogens on the solids. In MD to be considered a "BMP" practices must achieve at least 80% reduction in TSS AND 40% reduction in total phosphorous. For Chesapeake Bay, of course, nitrogen is also a huge issue.

For water quantity 7.4.1.1.2: I don't like the term used because “total average annual rainfall volume” does not speak to attenuating peaks. For example in Seattle we have our peaks in the 3,4 months of the winter and then we have a 3,4 month drought. If we

averaged the total volume, it would be small. Or in Tucson, where they have a late summer monsoon season, then an extended dry season.

7.4.1.1.2: is also not specific to redevelopment and new development so it is unclear what part of the site you would be studying the volume from.

- **Proposed Response:** Accept as modified. The language was modified to provide clarification and strengthen the credit.
- **Subcommittee Vote:** 9 in favor, none opposed, none abstained.

Motion: The motion was made and seconded to accept the subcommittee's proposed response.

Discussion on the Motion:

- It was stated that we need to be sure we are reaching rural agricultural areas. Typical designs don't reach this Standard.

VOTE: The motion carried with 19 in favor, none opposed, and 1 abstained.

Opposed: none

Abstained: Thomas Pape

Water Efficiency:

Presented by Mike Cudahy, vice, chair of the Subcommittee

- **52 – 35. Substantive. 9.6.2.2**
 - **Comment:** Establish a new subsection for alternate sources of water for outdoor uses other than irrigation. The alternative sources of water could be reclaimed, harvested or reused water, condensates, etc. They could be used for evaporative cooling, wash waters, and construction, e.g., cement or other materials that require water.
 - **Reason:** The system should incentivize the uses of alternative water sources for outdoor activities excluding irrigation consistent with the points awarded for indoor uses of recycled or harvest rainwater. (5,10 points.)
 - **Proposed Response:** Accept as modified. Not establishing a new subsection, but changing 9.6.2.1 to incorporate other uses besides irrigation. These uses are limited to the list (voted 3 to 2).
 - **Subcommittee Vote:** 5 in favor, none opposed, none abstained.

Motion: The motion was made and seconded to accept the Subcommittee's proposed response.

Discussion took place on the Motion:

- Clarification was requested on what flushing is referring to in an outdoor context. Discussion on this topic suggested that it could related to cooling tower operations with another speaker stating there is no such thing as flushing cooling towers.

Amendment: The amendment was made and seconded to strike "Flushing Operations" from both the left and right hand column of the Standard.

Discussion on Amendment:

- It was stated that flushing Operations might be related to concrete mixing.

VOTE: The amendment carried with 14 in favor, none opposed, and 3 abstained.

Discussion on Amended Motion:

- Editorial change was included with no objection to remove "for"

VOTE: The motion carried with 17 in favor, none opposed, and none abstained.

Opposed: none

Abstained: none

A proposal for a new Path D in Section 9.1 was presented

- **Subcommittee Vote (see below):** 6 in favor, none opposed, none abstained (Note: Water Subcommittee still prefers prerequisites, but approved the below language)

9.1 Indoor Domestic Plumbing (32-56 points)

Where installed in the project and as permitted by local codes, plumbing fixtures and fittings are certified and listed as being compliant with the requirements of the U.S. EPA’s *WaterSense*® Program where *WaterSense*® specifications exist.

~~Three-Four~~ paths are provided for assessing Indoor Domestic Plumbing:

- **Path A: ASHRAE Standard SS189.182014, Section 6.3.2.1 – 30-54** points
- **Path B: 2015 International Green Construction Code (IgCC), Table 702.1 – 30-54** points
- **Path C: 2015 IAPMO Green Plumbing & Mechanical Code Supplement Section 402 – 30-54** points
- **Path D: Major Renovations – 45 points. Not an eligible path for New Construction.**

Points cannot be combined between paths. Select one of the ~~three-four~~ pathways below.

~~If no path is chosen 75 points are deducted from total earned points in the Water Efficiency Assessment Area.~~

9.1.1 Path A: ASHRAE SS189.182014	
9.1.1.1 Plumbing fixtures and fittings comply with ASHRAE Standard SS189.1,2014, Section 6.3.2.1	30-54 points or N/A <ul style="list-style-type: none"> • Not applicable where Path B, C or D or C is followed.
Or	
9.1.2 Path B: 2015 International Green Construction Code (IgCC)	
9.1.2.1 Plumbing fixtures and fittings comply with the 2015 International Green Construction Code (IgCC), Table 702.1.	30-54 points or N/A <ul style="list-style-type: none"> • Not applicable where Path A, C or D or C is followed.
Or	
9.1.3 Path C: 2015 IAPMO Green Plumbing & Mechanical Code Supplement	
9.1.3.1 Plumbing fixtures and fittings comply with 2015 IAPMO Green Plumbing & Mechanical Code Supplement, Section 402.	30-54 points or N/A <ul style="list-style-type: none"> • Not applicable where Path A, B or D or B is followed.
Or	
9.1.4 Path D: Major Renovations	
9.1.4.1 <u>New construction is not eligible for Path D. Points are awarded when plumbing fixtures and fittings installed in the project meet or exceed requirements for maximum water consumption as listed below and are certified as being compliant with the requirements of the U.S. EPA’s Water Sense Program where WaterSense specifications exist.</u>	Maximum = 45 points or N/A <ul style="list-style-type: none"> • <u>1 point is earned where at least 80% of each fixture types meets credit requirements; and</u> • <u>3 additional points are earned where 90% of each fixture type meets credit requirements; and</u>

<ul style="list-style-type: none"> • <u>9.1.4.1.1: Toilets (Maximum flush volume 1.28 gallons per flush);</u> • <u>9.1.4.1.2: Urinals (Maximum flush volume 0.5 gallons per flush);</u> • <u>9.1.4.1.3: Showerheads (Maximum flow rate 2.0 gallons per minute);</u> • <u>9.1.4.1.4: Residential lavatory faucets (Maximum flow rate 1.5 gallons per minute);</u> • <u>9.1.4.1.5: Residential kitchen faucets (Maximum flow rate 2.2 gallons per minute); and</u> • <u>9.1.4.1.6: Non,residential lavatory faucets (Maximum flow rate 0.5 gallons per minute).</u> • <u>9.1.4.1.7: Pre,rinse valves (Maximum flow rate 1.28 gallons per minute)</u> 	<ul style="list-style-type: none"> • <u>41 additional points are earned where at least 98% of each fixture type meets credit requirements.</u> • <u>75 points are deducted if less than 80% of each fixture and fitting type meets credit requirements as listed in Path D,</u> • <u>Not applicable where no fixtures or fittings exist.</u> • <u>Not applicable where Path A, B or C is followed.</u>
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Motion: The motion was made and seconded to accept the Subcommittee’s proposed response.

Discussion on the Motion:

- Clarification was provided that the Subcommittee is recommending the entire proposal and the points as shown.
- The plan on how to reallocate points to create Path A B and C is a different document.
- It was stated that ,75 points is a lot and the risk,adverse may choose an alternative path.
- Questions were raised around negative points and number of negative points.
- It was stated these fixtures have sales almost equal to the non,,water saving fixtures. 80% of features swapped is completely feasible for projectteams.

VOTE: The motion carried with 10 in favor, 8 opposed, and none abstained.

Opposed: Greg Johnson, Jeff Bradley, Gord Shymko, Angela Tin, Gregg Bergmiller, Jane Rohde, William Carroll, and Gary Keclik

Abstained: none

- **33 – 1. Substantive. 9.1**
 - **Comment:** Replace section 9.1.1, 9.1.2, and 9.1.3 in their entirety with the following:
9.1 Indoor Domestic Plumbing (Pre,,,requisite , 0 points)
All plumbing fixtures and fixture fittings installed in the project shall meet the following requirements for maximum water consumption and are certified as being compliant with the requirements of the U.S. EPA's WaterSense Program where WaterSense specifications exist:
 - 9.1.1.1: Toilets (Maximum effective flush volume 1.28 gallons per flush);
 - 9.1.1.2: Urinals (Maximum effective flush volume 0.5 gallons per flush);
 - 9.1.1.3: Showerheads (Maximum effective flow rate 2.0 gallons per minute);
 - 9.1.1.4: Residential lavatory faucets (Maximum flow rate 1.5 gallons per minute);
 - 9.1.1.5: Residential kitchen faucets (Maximum flow rate 2.2 gallons per minute); and
 - 9.1.1.6: Non,,residential lavatory faucets (Maximum flow rate 0.5 gallons per minute).
 - 9.1.1.7: Pre,,rinse spray valves (Maximum flow rate 1.28 gallons per minute)

- **Reason:** The proposed standard lacks prerequisites, something that significantly diminishes the credibility of the standard as a “green standard”. With the way in which the standard is currently written, projects could conceivably meet the requirements of the standard and achieve multiple “globes” without addressing the important issue of water use efficiency in plumbing. Throughout the U.S., water supply and wastewater infrastructure is in need of repair, replacement and, in many cases, expansion. Without incorporating the most recent and widely proven product designs and technologies into a project, it means buildings will be touted as “green” when, in fact, they fail to fully address water supply, sanitation, wastewater treatment and water reuse issues important to our nation. By incorporating minimum plumbing requirements into this standard, new infrastructure construction can be deferred and water resources protected.

Currently, 29.57% of the U.S. population is already subject to the fixture (toilets & urinals) requirements proposed here in the draft standard. In some cases, the proposed thresholds for fixture fittings are also mandated (faucets, pre-rinse spray valves, showerheads). The following table illustrates which jurisdictions are mandating

Estimate of regulatory coverage	
HETs & HEUs	
Jurisdiction	Population July 1, 2014
California	38,802,500
Texas	26,956,958
Georgia	10,097,343
Colorado	5,355,866
New York City	8,491,079
Miami-Dade FL	2,662,874
Broward County FL	1,869,235
Santa Fe, NM	<u>67,947</u>
Total pop of jurisdictions with HET-HEU requirement	94,303,802
Total U.S.	318,900,000
% with HET-HEU req'm't	29.57%

the fixture requirements:

Since almost 30% of the U.S. population is mandated for HETs (1.28 gpf maximum) and HEUs (0.5 gpf maximum) in new construction (and, in some cases, for other water,, efficient products as well), it gives projects in those jurisdictions an unfair advantage by them being able to "claim" points by default. In other words, one cannot compare project "performance" across state lines because some projects will get points for plumbing without ever doing anything unique or “extra” to earn those points. The credibility of the GBI standard among the “green” community and definitely with water efficiency professionals is seriously at risk because of the lack of mandates and prerequisites in the document for the most basic water efficiency provisions.

- **55 – 1. Substantive. 9.1**

- **Comment:** The proposed standard contains no prerequisite requirements for anywater, efficiency products or designs. As such, a project or building could be certifies as

'compliant' under the standard without implementing the most commonly accepted water,efficiency measures provided for in other green standards , specifically HET Toilets and Urinals

- **Reason:** Numerous studies have confirmed the impact of installing HETS and HEUs in commercial buildings. New research from the Plumbing Efficiency Research Council finds that flushing volumes above 1 gal./flush successfully clear long commercial drainlines. The BSR/GBI commercial building protocol needs to have more concrete measures to ensure indoor efficiency using proven and effective measures like HETs and HEUs.
- **45 – 2. Substantive. 9**
 - **Comment:** Compliance with Section 9.1 shall be mandatory.
 - **Reason:** The GBI Standard needs to have minimum standards for indoor fixtures in order to be considered credible. The absence of such requirements is conspicuous and may hinder the credibility of the program.

While allowing designers and engineers flexibility to find uncommon paths to efficiency is often desirable, there are appropriate circumstances to define minimum performance standards.

Water use is quite different than energy use. First, in most cases there are rarely, if ever, multiple paths to efficiency for indoor water fixtures, this is very different from energy. While there are many ways to efficiently light an interior space (LEDs, fluorescents, supplemental daylighting, etc.), there is only one practical way to remove human waste from a building and that is by way of a toilet.

Some may contend that fixtures may not need to limit use if they utilize alternative water sources, but that creates the same dilemma. Water from all sources needs to be used efficiently. The water efficiency community will discredit any program that promotes or allows wasteful use of water simply based upon the quality or source of the water (i.e. salt water, rainwater, graywater, etc.).

Another reason water use is fundamentally different than energy use indoors is that energy is consumed, water is not. Energy is typically converted to either light or heat and essentially lost. As such, once it's used its waste product has relatively little value. Water, on the other hand, is not consumed indoors, it merely changes quality through use.

I applaud the Standard's increased emphases on the use of alternative water sources to reduce dependence on potable supplies. But that doesn't mean that non,potable water is less valuable (indeed, it can sometimes be the most costly in terms of infrastructure and energy input). All water is inherently of high value and may ultimately be reclaimed after reaching the sanitary sewer system. Using a non,potable water source is not a justification for using more water. In fact, it's the best reason for using a high,efficiency fixture.

Part of the appeal of the GBI Standard and Green Globes is its ability to be flexible and that is recognized, but with respect to water efficiency, it is simply archaic and not

reasonable at this juncture to put forth a standard that does not contain common minimum standards for indoor fixtures. This needs to be rectified in the next draft.

- **8 – 1. General. 9.1**
 - **Comment:** Replace sections 9.1.1, 9.1.2, and 9.1.3 in their entirety with the following:
9.1 Indoor Domestic Plumbing (Pre,requisite – 0 points) All plumbing fixtures and fixture fittings installed in the project shall meet the following requirements for maximum water consumption and are certified as being compliant with the requirements of the U.S. EPA’s WaterSense Program where WaterSense specifications exist:
 - 9.1.1.1: Toilets (Maximum effective flush volume 1.28 gallons per flush);
 - 9.1.1.2: Urinals (Maximum effective flush volume 0.5 gallons per flush);
 - 9.1.1.3: Showerheads (Maximum effective flow rate 2.0 gallons per minute);
 - 9.1.1.4: Residential lavatory faucets (Maximum flow rate 1.5 gallons per minute);
 - 9.1.1.5: Residential kitchen faucets (Maximum flow rate 2.2 gallons per minute);and
 - 9.1.1.6: Non,residential lavatory faucets (Maximum flow rate 0.5 gallons per minute).
 - 9.1.1.7: Pre,rinse spray valves (Maximum flow rate 1.28 gallons per minute)
 - **Reason:** This draft as it stands now leaves open the possibility that "GBI approved" buildings not have what we consider a basic level of water conservation. For this reason, prerequisite levels of water consumption must be specified as indicated.
- **56 – 10. General. 9.1, 9.2, 9.3, 9.4, 9.5, & 9.9**
 - **Comment:** WaterSense labels are included where applicable for the same requirements within the Guiding Principles for New Construction.
 - **Reason:** None Given
 - **Proposed Response with Prerequisites:** Accept as modified with the addition of an exception where the fixture or fixture fitting cannot meet the requirement due to regulatory statutes. Add ““Where local legal requirements require higher volumes of water for purposes of health or safety for any individual fixture or fixture fitting, the above do not apply”
 - **Subcommittee Vote:** Unanimously in favor
 - **Proposed Response with Path D:** Accept the proposed Response and to utilize this response for additional comments.
 - **Subcommittee Vote:** 5 in favor, none opposed, none abstained.

Motion: The motion was made and seconded to accept the Subcommittee’s proposed responses.

Discussion on the Motion:

- A question was raised whether penalties apply if fixtures are not WaterSense but are equivalent in efficiency.

Amendment: The amendment was made and seconded to say “WaterSense or equivalent fixtures.”

There was no objection to the amendment

VOTE: The motion carried with 17 in favor, none opposed, and 1 abstained.

Opposed: none

Abstained: Josh Jacobs

- **45 – 1. General/Substantive. 9**
 - **Comment:** The GBI Standard should include minimum flow/flush rate standards for common indoor fixtures.

- **Reason:** The GBI Standard needs to have minimum standards for indoor fixtures in order to be considered credible. The absence of such requirements is conspicuous and may hinder the credibility of the program.

While allowing designers and engineers flexibility to find uncommon paths to efficiency is often desirable, there are appropriate circumstances to define minimum performance standards.

Water use is quite different than energy use. First, in most cases there are rarely, if ever, multiple paths to efficiency for indoor water fixtures, this is very different from energy. While there are many ways to efficiently light an interior space. (LEDs, Fluorescents, supplemental daylighting, etc.), there is only one practical way to remove human waste from a building and that is by way of a toilet.

Some may contend that fixtures may not need to limit use if they utilize alternative water sources, but that creates the same dilemma. Water from all sources needs to be used efficiently. The water efficiency community will discredit any program that promotes or allows wasteful use of water simply based upon the quality or source of the water (i.e. salt water, rainwater, graywater, etc.).

Another reason water use is fundamentally different than energy use indoors is that energy is consumed, water is not. Energy is typically converted to either light or heat and essentially lost. As such, once it's used its waste product has relatively little value. Water, on the other hand, is not consumed indoors, it merely changes quality through use.

I applaud the Standard's increased emphases on the use of alternative water sources to reduce dependence on potable supplies. But that doesn't mean that non,potable water is less valuable (indeed, it can sometimes be the most costly in terms of infrastructure and energy input). All water is inherently of high value and may ultimately be reclaimed after reaching the sanitary sewer system. Using a non,potable water source is not a justification for using more water. In fact, it's the best reason for using a high efficiency fixture.

Part of the appeal of the GBI Standard and Green Globes is its ability to be flexible and that is recognized, but with respect to water efficiency, it is simply archaic and not reasonable at this juncture to put forth a standard that does not contain common minimum standards for indoor fixtures. This needs to be rectified in the next draft.

- **Proposed Response:** Accept as Noted.
- **Subcommittee Vote:** 5 in favor, none opposed, none abstained

Motion: The motion was made and seconded to use the subcommittee's proposed response.

Amendment: The amendment was made and seconded to amend the response to insert the response used for the previous group of comments. There were no Objections to the amendment.

VOTE: The motion carried with 15 in favor, 2 opposed, and 1 abstained.

Opposed: Susan Gitlin, Don Horn

Abstained: Josh Jacobs

Schedule and progress updates were provided:

- Points Task Group had their first meeting and a proposal is being worked on.
- Consensus Body Meeting #25 will be Wednesday, September 28th from 12:00 Noon to 3:00 PM ET.
- Signed Code of Conduct forms are due back to Maria Woodbury by COB September 30th.
- 49 comments were on the agenda for this meeting . 24 comments remain to be addressed.

Motion: The motion was made and seconded to adjourn CB Meeting #24. No objection was raised to adjourning the meeting.

88Meeting adjourned: 2:59PM ET—