

Additional Proposed Changes

August 11, 2014

Additional Proposed Changes Count	1
Additional TG-1 Proposed Changes	2
Additional TG-2 Proposed Changes	12
Additional TG-3 Proposed Changes	17
Additional TG-4 Proposed Changes	29
Additional TG 5 Proposed Changes.....	35
Additional TG-6 Proposed Changes	79
Additional TG-7 Proposed Changes – Coming Soon	84

Additional Proposed Changes Count

Task Group #	Number of Changes
1	9
2	6
3	16
4	9
5	53
6	6
7	TBD
Total	99

Additional TG-1 Proposed Changes

Proposal ID: TBD	LogID: TG 1 - 15	Preface
Submitter:	James M Williams	
Requested Action:	Add new text as follows:	
Proposed Change:	<p>Add to the Preface a section, “Italicized Terms,” and a description of Italicized Terms. Match the Italicized Terms definition and use as found in the 2015 IECC. See 2015 IECC, Preface, page vi.</p> <p><u>Italicized Terms</u> <u>Selected terms set forth in Chapter 2, Definitions, are italicized where they appear in code text. Such terms are not italicized where the definition set forth in Chapter 2 does not impart the intended meaning in the use of the term. The terms selected have definitions that the user should read carefully to facilitate better understanding of the code.</u></p>	
Substantiating Documents:	No	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TG 1 - 16	Preface
Submitter:	James M Williams	
Requested Action:	Add new text as follows:	
Proposed Change:	<p>Add to the Preface a section describing Marginal Markings, and then use the Marginal Markings as described throughout the publication. The Marginal Markings shall match the Marginal Markings used in the other I Codes (see preface page v of the 2015 IECC).</p> <p><u>Marginal Markings</u> <u>Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the previous edition. Deletion indicators in the form of an arrow (show arrow symbol) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted.</u> <u>A single asterisk (*) placed in the margin indicates that text or table has been relocated within the code. A double asterisk (**) placed in the margin indicates that the text or table immediately following it has been relocated there from elsewhere in the code.</u></p>	
Substantiating Documents:	No	

TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG1_002 Chapter 2 Definitions	
Submitter:	Howard Wiig
Requested Action:	Add new text as follows:
Proposed Change:	New Definition Tropical Climate Zone Coordinate with Energy Task Group
Substantiating Documents:	No
Reason:	To include tropical climate zone recognized in IECC2015
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG1- 12 Chapter 2 Definitions	
Submitter:	Susan Gitlin
Requested Action:	Add new text as follows:
Proposed Change:	<p>New definition: <u>INVASIVE PLANTS: Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health.</u></p> <p><u>Consideration for inclusion as invasive plants shall include at a minimum those plants identified on:</u></p> <ol style="list-style-type: none"> 1. <u>Lists created or approved by municipalities or counties, or if no such list exists then lists developed in accordance with ASTM WK40773 for the region where the building site is located or, where such a list is not available, the list published by the state or regional exotic pest plant council or invasive plant council, and</u> 2. <u>Lists created at the state and federal level.</u>
Substantiating Documents:	No

Reason:	Existing and proposed NGBS language refers to invasive plants (or, conversely, requires the use of “non-invasive plants”). Because only a very limited number of plants that have been deemed to cause environmental harm are actually regulated at this point, and because invasiveness of plants very often depends on local or regional conditions, many builders, landscape architects, and other professionals in the building industry do not know what is invasive locally or do not have reliable resources for determining what is locally invasive. This definition aims to help the building professionals and Home Innovation certification staff to determine what has been identified as invasive in the building’s region. This definition is based on the IGCC definition and changes to that definition that were recently recommended for approval by the public hearing committee. The ASTM standard is under development and will likely be published prior to the completion of the 2015 NGBS.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG2-01 202 Definitions	
Submitter:	Don Whyte, Task Group 2 Chair
Requested Action:	Revise as follows:
Proposed Change:	GREYFIELD SITE. A previously developed site with abandoned or underutilized structures, and little or no contamination or perceived contamination.
Substantiating Documents:	No
Reason:	Greyfields could also include abandoned parking lots or abandoned sites without sites what were partially developed before the recession and then abandoned.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD Section 202	
Submitter:	Craig Conner
Requested Action:	Add new text as follows:
Proposed Change:	Consider aligning NGBS definitions with the I-codes. Examples in reason.
Substantiating Documents:	No
Reason:	<p>2012 NATIONAL GREEN BUILDING STANDARD ICC 700-2012 NGBS 2015 INTERNATIONAL ENERGY CONSERVATION CODE IECC 2015 INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO- FAMILY DWELLINGS IRC 2015 INTERNATIONAL BUILDING CODE IBC 2012 I INTERNATIONAL GREEN CONSTRUCTION CODE IGCC</p> <p>NGBS ADDITION . An extension or increase in floor area or height of building or structure. IRC and IECC ADDITION. An extension or increase in the conditioned space floor area or height of a building or structure.</p>

NGBS BIOBASED PRODUCT. A commercial or industrial product used in site development or building construction that is composed, in whole or in significant part, of biological products, renewable agricultural materials(including plant, animal, and marine materials), or forestry materials.

IGCC BIO-BASED MATERIAL. A commercial or industrial material or product, other than food or feed, that is composed of, or derived from, in whole or in significant part, biological products or renewable domestic agricultural materials, including plant, animal, and marine materials, or forestry materials.

NGBS BROWNFIELD (also EPA-Recognized Brownfield). Real property, the expansion, redevelopment, or reuse that may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant, and includes Brownfield Site as defined in Public Law 107-118(H.R.2869)-“Small Business Liability Relief and Brownfields Revitalization Act.”

IGCC BROWNFIELD. A site in which the expansion, redevelopment or reuse of would be required to address the presence or potential presence of a hazardous substance, pollutant or contaminant.

Brownfield sites include:

- . EPA-recognized brownfield sites as defined in Public Law 107-118 (H.R. 2869) “Small Business Liability Relief and Brownfields Revitalization Act,” 40 CFR, Part 300; and
- . Sites determined to be contaminated according to local or state regulation.

NGBS CLIMATE ZONE. Climate zones are determined based on figure 6(1).

IECC CLIMATE ZONE. A geographical region based on climatic criteria as specified in this code.

IBC [E] CLIMATE ZONE. A geographical region that has been assigned climatic criteria as specified in Chapter 3CE and 3RE at the International Conservation Code.

NGBS CONDITIONED SPACE. An area or room within a building being heated or cooled, containing un insulated ducts, or with a fixed opening directly into an adjacent conditioned space

IRC [RE] CONDITIONED SPACE. An area, room or space that is enclosed within the building thermal envelope and that is indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate thru openings with conditioned spaces, where they are separated from conditioned spaces by un insulated walls, floors or ceilings or where they contain un insulated ducts, piping or other sources of heating or cooling.

NGBS COP (COEFFICIENT OF PERFORMANCE). A measure of the heating efficiency of ground and air-source heat pumps defined as the ratio of the rate of heat provided by the heat pump to the rate of energy input, in consistent units, for a complete heat pump under defined operating conditions.(see EER as a measure of the cooling efficiency of heat pumps.)

IECC COEFFICIENT OF PERFORMANCE (COP) . –COOLING. The ratio of the rate of heat input, in consistent units, for a complete refrigerating system of some specific portion of the system under designated operating conditions.

IECC COEFFICIENT OF PERFORMANCE (COP) .-HEATING. The ratio of the rate of heat delivered to the rate of energy input, in consistent units, for a complete heat pump system, including the compressor, and, if applicable, auxiliary heat, under designated operating conditions.

NGBS ENGINEERED WOOD PRODUCTS. Products that are made by combining wood strand, veneers, lumber or other wood fiber with adhesive or connectors to make a larger composite structure.

IBC [BS] ENGINEERED WOOD BOARD. A full-depth structural composite lumber, wood structural panel, structural glued laminated timber or prefabricated wood I-joist member designed to transfer horizontal (shear) and vertical (compression) loads, provide attachment for diaphragm sheathing, siding and exterior deck ledgers, and provide lateral support at the ends of floor or roof joists or rafters.

IRC [RB] ENGINEERED WOOD RIM BOARD. A full-depth structural composite lumber, wood structural panel, structural glued laminated timber or prefabricated wood I- Joist member designed to transfer horizontal (shear) and vertical (compression) loads, provide attachment for diaphragm sheathing, siding and exterior deck ledgers and provide lateral support at the ends of floors or roof joists or rafters.

NGBS EXISTING BUILDING. Building completed and occupied prior to any renovation considered under this standard.

IBC EXISTING STRUCTURE. A structure erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued. For application of provisions flood hazard areas, an existing structure is any building or structure for which the start of construction commenced before the effective date of the community's first flood plain management code, ordinance or standard.

IGCC EXISTING BUILDING. A building erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued.

NGBS GRADE PLANE. A reference plane representing the average of the finished ground level adjoining the building at all exterior walls . Where the finished ground level slopes away from the exterior walls, the reference plane shall be established by the lowest points within the area between the building and the lot line or, where the lot line is more than 6 feet (1830 mm) from the building, between the structure and a point 6 feet (1830 mm) from the building.

IRC GRADE PLANE. A reference plane representing the average of the finished ground level adjoining the building at all exterior walls . Where the finished ground level slopes away from the exterior walls, the reference plane shall be established by the lowest points within the area between the building and the lot line or, where the lot line is more than 6 feet (1829 mm) from the building, between the structure and a point 6 feet (1829 mm) from the building.

NGBS GRAY WATER. Waste discharged from lavatories, bathtubs, showers, clothes washers, and laundry trays.

IGCC GRAY WATER. Untreated waste water that has not come into contact with waste water from water closets, urinals, kitchen sinks, or dishwashers. Gray water includes, but is not limited to, waste water from bathtubs, showers, lavatories, clothes washers, and laundry trays.

NGBS GROUND SOURCE HEAT PUMP. Space conditioning and/or water heating systems that employ a geothermal resource such as the ground, groundwater, or surface water as both a heat source and a heat sink and use a reversible refrigeration cycle to provide both heating and cooling.

IRC GROUND SOURCE HEAT PUMP LOOP SYSTEM. Piping buried in horizontal or vertical excavations or placed in a body of water for the purpose of transporting heat transfer liquid to and from a heat pump. Included in this definition are closed loop systems in which the liquid is recirculated and open loop systems in which the liquid is drawn from a well or other source.

IGCC GROUND SOURCE OR GEOEXCHANGE. Where the earth is used as a heat sink in air conditioning or heat pump island systems. This also applies to systems utilizing subsurface water. Ground source heating and cooling uses the relatively constant temperature of the earth below the frost line. This steady temperature profile allows the earth to be used as a heat source in the winter and as a heat sink in the summer.

NGBS HARDSCAPE. Asphalt, concrete, masonry, stone, wood, and other non-plant elements external to the building shell on landscape.

IGCC HARDSCAPE. Areas of a building site covered by manmade materials.

NGBS HIGH EFFICIENCY LAMPS. Compact fluorescent lamps(CFL); light emitting diode (LED); T-8 or smaller diameter linear fluorescent lamps; or lamps with a minimum efficiency of 1) 60 lumens per watt for lamps over 40 watts, 2) 50 lumens per watt for lamps over 15 watts to 40 watts, or 3) 40 lumens per watt for lamps 15 watt or less.

IRC HIGH EFFICIENCY LAMPS. Compact fluorescent lamps(CFL); T-8 or smaller diameter linear fluorescent lamps; or lamps with a minimum efficiency of 1) 60 lumens per watt for lamps over 40 watts, 2) 50 lumens per watt for lamps over 15 watts to 40 watts, or 3) 40 lumens per watt for lamps 15 watt or less.

NGBS IMPERVIOUS SURFACE. Hard-covered ground area that prevents/retards the entry of water into the soil at that location, resulting in water flowing to another location. (also see HARDSCAPE)

IGCC IMPERVIOUS SURFACE. Paved concrete or asphalt and other similar surfaces that readily

accommodate the flow of water with relatively little absorption, as typically used at exterior horizontal areas including, but not limited to, parking lots, bikeways, walkways, plazas and fire lanes.

NGBS INFILL. A location including vacant or underutilized land that may apply to either a site or a lot and is located in an area served by existing infrastructure such as centralized water and sewer connections, roads, drainage, etc., and the site boundaries are adjacent to existing development on at least one side.

IGCC INFILL SITE. Infill sites are one of the following;

- . A vacant lot, or collection of adjoining lots, located in an established, developed area that is already served by existing infrastructure;
- . A previously developed lot or collection of previously developed adjoining lots, that is being redeveloped or is designated for redevelopment.

NGBS LOT. A single parcel of land generally containing one primary structure or use . Lot development, as defined by this Standard, may include multiple ownership (such as with a condominium building) or multiple uses (such as with a mixed use building). A lot is predominantly represented by a single-family dwelling unit, a multifamily structure, or a mixed-use building also containing offices and shops. Lots may be located in urban, suburban, and rural locations. A lot may be located within a site. (also see SITE)

IRC [RB] LOT. A portion or parcel of land considered as a unit.

ICC LOT. A single parcel of land generally containing one primary structure or use. Lot development, as defined by this Standard, may include multiple ownership (such as with a condominium building) or multiple uses (such as with a mixed use building). A lot is predominantly represented by a single-family dwelling unit, a multifamily structure, or a mixed-use building also containing offices and shops. Lots may be located in urban, suburban, and rural locations. A lot may be located within a site. (also see SITE).

IBC[A] LOT. A portion or parcel of land considered as a unit.

IGCC LOT. A portion or parcel of land considered as a unit.

NGBS MERV (Minimum Efficiency Reporting Value). The Minimum Efficiency Reporting Value or filters in accordance with criteria contained in ASHRAE 52.2.

IGCC MINIMUM EFFICIENCY REPORTING VALUE (MERV). Minimum efficiency-rated value for the effectiveness of air filters.

NGBS REUSE. To recover a material or product for use again without reprocessing.

IGCC REUSE. To divert a material, product, component, module, or a building from the waste stream in order to use it again.

NGBS R-VALUE. The inverse of the time rate of heat flow through a body from one of its bounding surfaces to the other surface for a unit temperature difference between the two surfaces, under steady state conditions, per unit area ($h \times ft^2 \times F/Btu$) [$(m^2 \times K)/W$].

IRC [RE]R-VALUE, THERMAL RESISTANCE. The inverse of the time rate of heat flow through a building thermal envelope element from one of its bounding surfaces to the other for a unit temperature difference between the two surfaces, under steady state conditions, per unit area ($h'ft^2'F/Btu$).

NGBS SITE. Any are of land that is or will be developed into two or more parcels of land intended for multiple ownership, uses, or structures and designed to be a part of an integrated whole such as a residential subdivision, mixed-use development, or master-planned community. Site, as defined, generally contains multiple lots.(also see LOT)

IBC SITE. A parcel of land bounded by a lot line or a designated portion of a public right-of-way.

NGBS SHGC (SOLAR HEAT GAIN COEFFICIENT). The ratio of the solar heat gain entering the space through the fenestration assembly to the incident solar radiation. Solar heat gain includes directly transmitted solar heat and absorbed solar radiation which is then reradiated, conducted, or convected into the space.

IRC [RE] SOLAR HEAT GAIN COEFFICIENT (SHGC). The solar heat gain through a fenestration or glazing assembly relative to the incident solar radiation (Btu/h'ft²F).

NGBS STEEP SLOPES. Slopes equal to or greater than 25 percent (>25%).

IBC STEEP SLOPE. A roof slope greater than two units vertical in 12 units horizontal (17-percent slope).

NGBS STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above.

IBC STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above (see "Basement," "Building height," "Grade plane" and "Mezzanine"). A story is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

IGCC STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above. It is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

NGBS STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade, except that a basement shall be considered as a story above grade where the finished surface of the floor above the basement is:

- . More than 6 feet (1829 mm) above grade plane.
- . More than 6 feet (1829) above the finished ground level for more than 50 percent of the total building perimeter.
- . More than 12 feet (3658 mm) above the finished ground level at any point.

IBC STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor next above is:

- . More than 6 feet (1829mm) above grade plane; or
- . More than 12 feet (3658 mm) above the finished ground level at any point.

NGBS SIP (STRUCTURAL INSULATED PANEL). A structural sandwich panel that consists of a light-weight foam plastic core securely laminated between two thin, rigid wood structural panel facings; a structural panel that consists of lightweight foam plastic and cold-formed steel sheet or structural cold-formed steel members; or other similar non-interrupted panels.

IRC [RB] STRUCTURAL INSULATED PANEL (SIP). A structural sandwich panel that consists of a light-weight foam plastic core securely laminated between two thin, rigid wood structural panel facings.

NGBS U-FACTOR (THERMAL TRANSMITTANCE). The coefficient of heat transmission (air to air) through a building envelope component or assembly, equal to the time rate of heat flow per unit area and unit temperature difference between the warm side and cold side air films (Btu/h'ft²F) [W/(m²K)].

IRC [RE] U-FACTOR, THERMAL TRANSMITTANCE. See section N1101.6 for definition applicable in chapter 11.

NGBS WATER FACTOR (WATER CONSUMPTION FACTOR). The quotient of the total weighted per-cycle water consumption divided by the capacity of the clothes washer.

IGCC WATER FACTOR(WF).the quantity of water, in gallons per cycle (Q), divided by a clothes washing machine clothes container capacity in cubic feet (C). The equation is: $WF=Q/C$

NGBS WETLANDS. Areas that are saturated by the surface or ground water at frequency and the duration sufficient to support, and the under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are further defined by the EPA in the Code of Federal Regulations.

IGCC WETLAND. Areas that are inundated or saturated by the surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of

	vegetation typically adapted for life in saturated soil conditions.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD **LogID:** TG1-06 Insert new chapter 4 on Collaborative Planning and Project Management, renumber following chapters; Delete current section 402 and 502

Submitter:	Tim Pate and John Barrows, Task Group 1
Requested Action:	Add new chapter 4 Collaborative Planning and Project Management and renumber all of the following chapters including existing Chapter 4 Site Design
Proposed Change:	<p>400 Integrated project design, process, and management (project team, mission statement, and goals)</p> <p>400.0 Intent. The project is designed and constructed by a team of qualified professionals trained in green development, construction, and remodeling practices.</p> <p>400.1 Team. A knowledgeable team is established and team member roles are identified in respect to all chapters of the NGBS. (POINTS AWARDED)</p> <p style="padding-left: 40px;">(1) The team will consist of the owner, design team, and contractor at a minimum. (1 POINT)</p> <p style="padding-left: 40px;">(2) NGBS approved verifier is part of initial team. (1 POINT)</p> <p>401.0 Meetings</p> <p>401.1 Preliminary collaborative meeting. A preliminary meeting will occur with all stakeholders for the project in order to establish the team and roles, required training, project checklist, and review the overall scope of work in order to facilitate the initial plans to meet the scope of the NGBS and the proposed rating level that is to be achieved. (MANDATORY)</p> <p>401.2 Training. Training is provided to on-site supervisors and team members regarding the green development practices to be used on the project. (POINTS AWARDED)</p> <p>401.3 Project Meetings. Project meetings are documented and notes are distributed to all team members. (POINTS AWARDED)</p> <p>402.0 Project Management Documentation</p>

	<p>402.1 Mission Statement. The project’s goals and objectives are written into a Project Mission Statement and distributed to all team members (MANDATORY)</p> <p>402.2 Project checklist. A checklist of green development practices to be used on the project is created, followed, and completed by the project team regarding the overall scope of the project. (MANDATORY)</p> <p>402.3 Project Schedule. A project schedule with all green tasks and inspections is created, updated on a regular basis, and distributed to all team members. (POINTS AWARDED)</p> <p>403.0 Developer Agreements</p> <p>403.1 Developer Agreements. Through a developer agreement or equivalent, the developer requires purchasers of lots to construct the buildings in compliance with the Standard (or equivalent) certified to a minimum of Bronze rating level.(POINTS AWARDED)</p> <p>Delete current section 402 and 502</p>
Substantiating Documents:	No
Reason:	Proposed additional chapter will serve to focus the entire team on not only the project goals but also the implementation of the green practices. The added practices will reinforce cost effective planning and communication to better help the team reach the stated objectives.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG1-17 Appendix C - Table C200	
Submitter:	Tim Pate - City and County of Broomfield Colorado Building Division
Requested Action:	Add new language to Colorado and delete asterisks (*) from certain Texas counties
Proposed Change:	<p>COLORADO</p> <p>5B Boulder <u>5B Broomfield</u> 6B Chaffee</p> <p>TEXAS (remove asterisks from all counties below)</p>

	Bandera Dimmit Edwards Frio Kinney La Salle Maverick Medina Real Uvalde Val Verde Webb Zapata Zavala
Substantiating Documents:	Yes
Reason:	<p>There were two successful code changes for the recently published 2015 IECC which added Broomfield County to Colorado and removed asterisks from 14 Texas counties which effectively removed them from the warm-humid location designation. This proposed change would get the 2015 NGBS to match the 2015 IECC.</p> <p>I have attached copies of both of the code change proposals with their reason statements for documentation.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG1 - 14 Index	
Submitter:	James M Williams
Requested Action:	Add new text as follows:
Proposed Change:	Add an Index at the back of the document. Follow the same format as the other I Codes. See 2015 IECC index page C-107 or R-53 for an example.
Substantiating Documents:	No
Reason:	To match the format of the other I Codes. To assist the end users in using the standard. An index will greatly assists the end user in actually using and applying the standard.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Additional TG-2 Proposed Changes

Proposal ID: TBD LogID: TG2-03 403.5 Stormwater Management													
Submitter:	Robert Goo, Task Group 2												
Requested Action:	Delete and substitute as follows:												
Proposed Change:	<p>Delete entire section 403.5</p> <p><u>403.5 Stormwater Management. The stormwater management system is designed to use low impact development/green infrastructure practices to preserve, restore or mitigate changes in site hydrology due to land disturbance and the construction of impermeable surfaces through the use of one or more of the following techniques:</u></p> <p><u>(1) A site assessment is conducted and a plan prepared and implemented that identifies important existing permeable soils, natural drainage ways and other water features, e.g., depressional storage, onsite to be preserved in order to maintain site hydrology. 7 points</u></p> <p><u>(2) A hydrologic analysis is conducted that results in the design of a stormwater management system that maintains the pre-development (stable, natural) runoff hydrology of the site through the development or redevelopment process. Ensure that post construction runoff rate, volume and duration do not exceed predevelopment rates, volume and duration. 10 points.</u></p> <p><u>(3) Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, and permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:</u></p> <table border="0"> <tr> <td><u>(a) 80th percentile storm event</u></td> <td><u>5 points</u></td> </tr> <tr> <td><u>(b) 90th percentile storm event</u></td> <td><u>8 points</u></td> </tr> <tr> <td><u>(c) 95th percentile storm event</u></td> <td><u>10 points</u></td> </tr> </table> <p><u>(4) Permeable materials are used for driveways, parking areas, walkways and patios according to the following percentages:</u></p> <table border="0"> <tr> <td><u>(a) less than 25 percent</u></td> <td><u>2 points</u></td> </tr> <tr> <td><u>(b) 25-50 percent</u></td> <td><u>5 points</u></td> </tr> <tr> <td><u>(c) greater than 50 percent</u></td> <td><u>10 points</u></td> </tr> </table>	<u>(a) 80th percentile storm event</u>	<u>5 points</u>	<u>(b) 90th percentile storm event</u>	<u>8 points</u>	<u>(c) 95th percentile storm event</u>	<u>10 points</u>	<u>(a) less than 25 percent</u>	<u>2 points</u>	<u>(b) 25-50 percent</u>	<u>5 points</u>	<u>(c) greater than 50 percent</u>	<u>10 points</u>
<u>(a) 80th percentile storm event</u>	<u>5 points</u>												
<u>(b) 90th percentile storm event</u>	<u>8 points</u>												
<u>(c) 95th percentile storm event</u>	<u>10 points</u>												
<u>(a) less than 25 percent</u>	<u>2 points</u>												
<u>(b) 25-50 percent</u>	<u>5 points</u>												
<u>(c) greater than 50 percent</u>	<u>10 points</u>												
Substantiating Documents:	No												
Reason:	As written 403.5 is a mix of elements that have and do not have objective performance requirements. In addition, the categories overlap and some double counting may occur. The proposed rewrite is an attempt to address these issues and provide a more practical system with which to promote the use of low impact development/green infrastructure practices in the design of the stormwater management systems for the projects.												
TG Recommendation:													
TG Modification of Proposed Change:													

TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TG2-05	403.11 Environmentally Sensitive Areas
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Submitter:	Robert Goo, Task Group 2
Requested Action:	Revise as follows:
Proposed Change:	<p>403.11 Environmentally sensitive areas.</p> <p>Environmentally sensitive areas are protected as follows:</p> <p>(1) The environmentally sensitive areas of sites including steep slopes, prime farmland, critical habitats, <u>stream protection areas</u>, and wetlands are avoided as follows:</p> <p style="padding-left: 40px;">(a) <25 percent of site <u>environmentally sensitive areas left undeveloped....</u> 2 points</p> <p style="padding-left: 40px;">(b) 25 percent–75 percent of site <u>environmentally sensitive areas left undeveloped.</u>4 points</p> <p style="padding-left: 40px;">(c) >75 percent of site <u>environmentally sensitive areas left undeveloped.....</u>7 points</p> <p>(2) Compromised environmentally sensitive areas are mitigated or restored. 4 points</p> <p><u>(2) Environmentally sensitive areas are permanently protected a conservation easement or similar mechanism. 10 points</u></p> <p><u>(3) At least 50% of environmentally sensitive impacted areas are partially restored or enhanced. 4 points</u></p> <p><u>(4) Environmentally sensitive areas are restored to predevelopment (not preproject) ecosystem function... 7 points</u></p>
Substantiating Documents:	No
Reason:	Language changed to provide additional clarity. Moreover, protection, restoration and mitigation achieve different results and should not be rewarded the same level of points.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TG2-07	405.6 Multi-modal transportation
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Submitter:	Don Whyte, Task Group 2 Chair
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Requested Action:	Revise as follows:
Proposed Change:	Bicycle parking and racks are indicated on the site plan and constructed for mixed-use , multi-family buildings and/or each <u>developed common areas</u> . <u>6 points</u>
Substantiating Documents:	No
Reason:	This was revised for additional clarity. NGBS only applies to the residential portions of the project and while bike racks should be available at the developed common areas (ex: playgrounds), they do not need to be provided around passive open space.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG2-02 503.1 Natural Resources	
Submitter:	Don Whyte, Task Group 2 Chair
Requested Action:	Revise as follows:
Proposed Change:	(2) A plan is implemented to conserve the elements identified by the <u>natural</u> resource inventory as high-priority resources. (3) Items listed for protection in the <u>natural</u> resource inventory plan are protected under the direction of a qualified professional.
Substantiating Documents:	No
Reason:	Language changed for consistency
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG2-04 503.4 Stormwater Management	
Submitter:	Robert Goo, Task Group 2
Requested Action:	Delete and substitute as follows:
Proposed Change:	Delete entire section 503.4 <u>503.5 Stormwater Management. The stormwater management system is designed to use low impact development/green infrastructure practices to preserve, restore or mitigate changes in site hydrology due to land disturbance and the construction of impermeable surfaces through the use of one or more of the following techniques:</u> <u>(1) A site assessment is conducted and a plan prepared and implemented that identifies important existing permeable soils, natural drainage ways and other water features, e.g., depressional storage, onsite to be preserved in order to maintain site hydrology. 7 points</u>

	<p><u>(2) A hydrologic analysis is conducted that results in the design of a stormwater management system that maintains the pre-development (stable, natural) runoff hydrology of the site through the development or redevelopment process. Ensure that post construction runoff rate, volume and duration do not exceed predevelopment rates, volume and duration. 10 points.</u></p> <p><u>(3) Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, and permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:</u></p> <table border="1"> <tr> <td>(a) 80th percentile storm event</td> <td>5 points</td> </tr> <tr> <td>(b) 90th percentile storm event</td> <td>8 points</td> </tr> <tr> <td>(c) 95th percentile storm event</td> <td>10 points</td> </tr> </table> <p><u>(4) Permeable materials are used for driveways, parking areas, walkways and patios according to the following percentages:</u></p> <table border="1"> <tr> <td>(a) less than 25 percent</td> <td>2 points</td> </tr> <tr> <td>(b) 25-50 percent</td> <td>5 points</td> </tr> <tr> <td>(c) greater than 50 percent</td> <td>10 points</td> </tr> </table>	(a) 80 th percentile storm event	5 points	(b) 90 th percentile storm event	8 points	(c) 95 th percentile storm event	10 points	(a) less than 25 percent	2 points	(b) 25-50 percent	5 points	(c) greater than 50 percent	10 points
(a) 80 th percentile storm event	5 points												
(b) 90 th percentile storm event	8 points												
(c) 95 th percentile storm event	10 points												
(a) less than 25 percent	2 points												
(b) 25-50 percent	5 points												
(c) greater than 50 percent	10 points												
Substantiating Documents:	No												
Reason:	As written 503.4 is a mix of elements that have and do not have objective performance requirements. In addition, the categories overlap and some double counting may occur. The proposed rewrite is an attempt to address these issues and provide a more practical system with which to promote the use of low impact development/green infrastructure practices in the design of the stormwater management systems for the projects.												
TG Recommendation:													
TG Modification of Proposed Change:													
TG Reason:													
TG Vote:													

Proposal ID: TBD LogID: TG2-06 503.7 Environmentally Sensitive Areas	
Submitter:	Robert Goo, Task Group 2
Requested Action:	Revise as follows:
Proposed Change:	<p>503.7 Environmentally Sensitive Areas. The lot is in accordance with one or both of the following:</p> <p>(1) The lot does not contain any environmentally sensitive areas <u>such as steep slopes, prime farmland, critical habitats, stream protection areas or wetlands</u> that are disturbed by construction. ... 4 points</p> <p>(2) Compromised environmentally sensitive areas are mitigated or restored. <u>On lots with environmentally sensitive areas, mitigation and/or restoration is conducted to</u></p>

	<u>restore ecosystem functions lost through development and construction activities...</u> 4 points
Substantiating Documents:	No
Reason:	This list was included to provide additional clarity. Moreover, avoidance and mitigation/restoration achieve different results and therefore points should be awarded separately.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Additional TG-3 Proposed Changes

Proposal ID: TBD LogID: TBD 601.9 Above Grade Wall Systems	
Submitter:	David Shepherd, Portland Cement Association
Requested Action:	Revise as follows:
Proposed Change:	<p>601.9 Above Grade Wall Systems Mass Wall Systems. One or more of the above-grade wall systems <u>mass wall systems that provide sufficient structural and thermal characteristics meeting the requirements for mass walls as defined in the NGBS</u> are used for a minimum of 75% of the <u>gross opaque exterior wall area of the building conditioned space:</u></p> <ul style="list-style-type: none"> (1) Adobe (2) Concrete and/or masonry (3) Log home (4) Rammed earth (5) <u>Other wall assemblies meeting the heat capacity and R-value requirements noted in the definition of mass walls.</u>
Substantiating Documents:	No
Reason:	<p>This proposed language:</p> <ul style="list-style-type: none"> ● Revises the incorrect titling of this section ● It provides direction to the user on the criteria defining mass walls ● Clarifies the applicability of where mass walls are to be used. (no need for mass wall construction in unconditioned spaces) ● Point 5 Expands the option to applicable technologies that may not be listed <p>The existing NGBS definition of mass walls aligns with the requirements of both the 2012 IRC and the 2015 IECC.</p> <p>The credit addresses the necessary material requirements for supporting passive solar design (Section 703.6)</p> <ul style="list-style-type: none"> ●
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 602.1.5	
Submitter:	Sam Francis, Theresa Weston, Maribeth Rizzuto
Requested Action:	Revise as follows:
Proposed Change:	<p>602.1.5 Termite Barrier. Continuous physical foundation termite barrier provided in accordance as follows:</p> <ul style="list-style-type: none"> 1. in geographic areas that have slight to moderate infestation potential in accordance with Figure 6(3) a continuous physical barrier is used.

	<p>2. in geographic areas that have moderate to heavy or very heavy infestation potential in accordance with figure 6(3), a continuous physical barrier used with no or low toxicity treatment is installed.</p> <p>3. in geographic areas that have a moderate to heavy or very heavy a low toxicity bait and kill termite treatment plan is selected and implemented.</p>
Substantiating Documents:	No
Reason:	Integrate concepts of LogID 5309
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 602.1.9	
Submitter:	Steve Easley
Requested Action:	Revise, I want to add two words, Drainable Housewrap at 602.1.9, 5b.
Proposed Change:	“A cladding material or water-resistive barrier/ <u>drainable housewrap</u> with enhanced drainage, meeting 75 percent drainage efficiency determined in accordance with ASTM E2273.” or “A cladding material or water-resistive barrier/ <u>drainable housewrap</u> meeting 75 percent drainage efficiency determined in accordance with ASTM E2273.
Substantiating Documents:	
Reason:	I believe this will help the language to be clearer to the industry as many of the “rank and file” trades and less informed builders are still a bit unclear what a weather resistive barrier really is. Also I think drainable housewrap will help clarify "enhanced drainage” The codes already requires a WRB/housewrap under ALL claddings. Referencing IECC 2006 to present
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 603 Reused or Salvaged materials	
Submitter:	Frank Stanonik
Requested Action:	Add new text as follows:
Proposed Change:	<u>603.2 Demolition of existing building</u>

	<u>A demolition waste management plan is developed, posted at the jobsite and implemented with a goal of recycling or salvaging g a minimum of 50 percent of the nonhazardous demolition waste.</u>
Substantiating Documents:	No
Reason:	Responding to comments ID 638 and 628
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	604.1 Recycled Content
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Submitter:	David Shepherd & Maribeth Rizzuto													
Requested Action:	Revise as follows:													
Proposed Change:	<p>604.1 Recycled content. Building materials with recycled content are used for two eight minor and/or two five major components of the building, <u>with a maximum of 8 points for this credit.</u></p> <p>Table 604.1 Recycled Content</p> <table border="1"> <thead> <tr> <th>Percentage of Recycled Content</th> <th>Points Per 2 8 Minor Components</th> <th>Points Per 2 5 Major Components</th> </tr> </thead> <tbody> <tr> <td>25% to less than 50%</td> <td>1</td> <td>2</td> </tr> <tr> <td>50% to less than 75%</td> <td>2</td> <td>4</td> </tr> <tr> <td>More than 75%</td> <td>3</td> <td>6</td> </tr> </tbody> </table> <p><u>The percentage of recycled content shall be based on mass or cost, and the basis of calculation shall remain consistent for all components considered within the credit.</u></p>		Percentage of Recycled Content	Points Per 2 8 Minor Components	Points Per 2 5 Major Components	25% to less than 50%	1	2	50% to less than 75%	2	4	More than 75%	3	6
Percentage of Recycled Content	Points Per 2 8 Minor Components	Points Per 2 5 Major Components												
25% to less than 50%	1	2												
50% to less than 75%	2	4												
More than 75%	3	6												
Substantiating Documents:	No													
Reason:	<p>The inclusion of recycled content is becoming a commonplace practice for the manufacturing of construction products, especially those in the major components category. The number of products required for achieving points has been raised to award broader use of products with recycled content.</p> <p>A maximum of 8 points was added into the language, recognizing that recycling is a tertiary strategy, down from reuse and salvaging. This also addresses the confusion noted in LogID 5316</p> <p>Additional direction for the credit calculation was added to assist the user.</p>													
TG Recommendation:														
TG Modification of Proposed Change:														
TG Reason:														
TG Vote:														

Proposal ID: TBD	LogID: TBD	605.1 Construction Waste Management Plan
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Submitter:	David Shepherd, AIA, - Portland Cement Association
Requested Action:	Revise as follows:
Proposed Change:	<p>605.1 Construction waste management plan. A construction waste management plan is developed, posted at the jobsite and implemented with a goal of recycling or salvaging <u>diverting, through reuse, salvage or recycling</u>, a minimum of 50 percent (by weight) of <u>nonhazardous construction and demolition waste from disposal</u>.</p> <p><u>The waste management plan shall include the recycling of 95% of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) for remodeling projects or demolition of an existing facility by a EPA certified E-Waste recycling facility.</u></p> <p><u>Exceptions:</u></p> <ol style="list-style-type: none"> 1. <u>Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.</u> 2. <u>A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.</u> <p>Enter proposed change Must use legislative format for revised text as follows:</p> <ul style="list-style-type: none"> • strike through text to be deleted • <u>underline text</u> to be added <p>Do NOT use track changes</p>
Substantiating Documents:	No
Reason:	<p>The phrase “ with a goal of recycling or salvaging” was deleted as this is not a new, innovative or onerous practice, thus points should only be awarded for achieving the requirement. The intent of this credit is not to attempt to achieve but actually accomplish the waste diversion rates specified in the requirement.</p> <p>Requirements with identical intent are already included in the:</p> <ul style="list-style-type: none"> • IgCC 2012 (section 503.1) • CalGreen (Section 4.408 - <u>MANDATORY</u> for all new residential construction) • ASHRAE 189.1 (Section 9.3.1.1 – <u>MANDATORY</u> to receive a certificate of occupancy) • LEED v4, MR Credit – Construction and Demolition Waste Management • LEED Homes v4 MR Credit – Construction Waste Management <p>None of the above offer points for intent of waste diversion without actually achieving the requirement.</p> <p>Electronic components (circuit boards, HVAC and security control panels, etc) contain precious metals as well as contaminants such as lead, cadmium, beryllium and brominated flame retardants. According to the EPA, 25 states have passed legislation controlling the disposal of e-waste. E-waste should only be recycled through an EPA certified e-waste recycler.</p> <p>An exception has been provided to accommodate project locations where recycling facilities unable to provide documentation are not available.</p> <p>Waste generated from demolition is included in this credit to support the Site Redevelopment credit in Section 401.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 609.1 Regional Materials	
Submitter:	David Shepherd
Requested Action:	Revise as follows:
Proposed Change:	<p>609.1 Regional Materials – Regional materials are used for major and/or <u>minor elements or components</u> of the building.</p> <p><u>1 credit per minor component</u> <u>2 credits per major component</u></p> <p><u>For a component to comply with this credit, a minimum of 75% of all products in that component category must be sourced regionally (Example – Stone Veneer, 75% or more of the stone veneer on a project must be sources regionally to comply with the credit intent.)</u></p>
Substantiating Documents:	No
Reason:	<p>The proposed change broadens the options to include minor components as well as major components.</p> <p>The use of regional materials offers multiple green benefits:</p> <ul style="list-style-type: none"> • Increases the likelihood that the product will be produced under U.S. Clean Air and Water Act, with stricter regulatory controls than foreign environments • Minimizes transportation impacts (traffic congestion, cost and environmental impacts) • Stimulates the local, regional and national economic base <p>This credit retains a maximum of ten point</p> <ul style="list-style-type: none"> • <p>This credit is found in other national green codes and rating systems.</p> <ul style="list-style-type: none"> • IgCC (Section 505.2.5) • ASHRAE SP189.1 -2011 (Section 9.4.1.2) • LEED Homes V4 (MR Credit – Environmentally Preferred Products) •
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 610	
Submitter:	Jerry Phelan
Requested Action:	Revise as follows:
Proposed Change:	<p><u>610 LIFE CYCLE ANALYSIS ASSESSMENT</u> <u>610.1 Life cycle analysis assessment.</u> A life cycle analysis assessment (LCA) tool... <u>610.1.1 Whole-building life cycle analysis assessment.</u> <u>610.1.2 Life cycle analysis assessment for a product or assembly.</u></p>
Substantiating Documents:	No
Reason:	This is a presumed editorial change proposed to be consistent with convention for LCA – The terms “analysis” and “assessment” have different meaning with “assessment” more clearly describing the LCA

	technique/science. Assessment is consistently used in universal standards establishing framework, guidelines and requirements for conducting LCA studies and employing LCA results as well as used in IgCC and ASHRAE 189.1.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	610.1.1
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Submitter:	Jerry Phelan, Bayer MaterialScience Proposed draft for TG #3 consideration
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Requested Action:	Revise as follows:
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	<p>610.1.1 Whole-building life cycle analysis assessment. A whole-building LCA is <u>shall be performed in conformance with ASTM E-2921 using a ISO 14044 compliant life cycle assessments and data compliant with ISO 14044 or other recognized standards.</u> Points: 15 Max</p> <p>(1) <u>Execute LCA at the whole building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria shall include the following environmental impact categories:</u></p> <p style="margin-left: 40px;"> <u>(a) Primary energy use</u> <u>(b) Global warming potential</u> <u>(c) Acidification potential</u> <u>(d) Eutrophication potential</u> <u>(e) Ozone depletion potential</u> <u>(f) Smog potential</u> </p> <p style="text-align: right;">Points: 8</p> <p>(2) <u>Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results shall be determined using EPA eGRID 2012 electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the Sub-Region in which the building is located.</u> Points: 5</p> <p>(3) <u>Complete full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) using EPA eGRID 2012 regional emissions factors [provide full reference to eGRID 2012 document or provide factor tables].</u></p> <p style="text-align: right;">Points: 2</p>
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Substantiating Documents:	No
Reason:	Need for more robust LCA/EPD proposal identified in discussion of LogID 5115. Created to replace LogID 5115
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 610.1.2.1	
Submitter:	Jerry Phelan
Requested Action:	Revise as follows:
Proposed Change:	<p>610.1.2.1 ... following: (a) Fossil fuel consumption <u>Primary energy use</u> {(b) – (e) no change} {New} (f) <u>Smog potential</u></p> <p>610.1.2.2 ... following: (a) Fossil fuel consumption <u>Primary energy use</u> {(b) – (e) no change} {New} (f) <u>Smog potential</u></p>
Substantiating Documents:	No
Reason:	<p>The widely recognized impact indicator of Primary energy use better serves the intent of Section 610 than Fossil fuel consumption – Fossil fuel consumption is a reflection of the utility supplier energy mix (i.e. coal, natural gas, etc. versus hydropower, solar, etc.) and its marginal demand supply decisions than it is of the building product manufacturer or the life cycle operating efficiency and design characteristics of the building. In particular, Fossil fuel consumption does not accurately provide a holistic view of the building's energy efficiency by limiting the operating energy considered in the WBLCA – Please note that this is consistent with TG3 approved Section 610.1.1 Whole-building life cycle analysis proposed change (LogID 5051). IgCC utilizes Primary energy use as an impact measure. Submitter's review of many building product (predominately insulation) EPDs indicates that Primary energy is normally reported.</p> <p>In addition, Smog Potential is a highly recognized and frequently reported impact category for building products. Data are readily available for emission of NOx and VOCs associated with energy generation and supply. Please note that this is also consistent with TG3 approved Section 610.1.1 Whole-building life cycle analysis proposed change (LogID 5051). IgCC also utilizes Smog potential as an impact measure. Submitter's review of many building product (predominately insulation) EPDs indicates that Smog potential is normally reported. Low-level ozone/smog is a highly public concern in most communities and urban areas.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD	Section: 611.3 (page 42 of 2012 NGBS)
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Submitter:	Ramesh Gulatee, Ryan Taylor
Requested Action:	Modify as follows
Proposed Change:	<p>Add the following points to section 611.3 on page 42:</p> <p>(5) All interior and exterior door handles are levers rather than knobs.</p> <p>(6) All sink faucet controls are single-handle controls of both volume and temperature. [Faucet controls might also appear in section 11.903.1 Plumbing on page 121 though it makes more sense to group these requirements because they share the same purpose.]</p> <p>(7) Power receptacles, communication connections (for cable, phone, Ethernet, etc.) and switches required by the local building codes are placed between 15” and 48” above the finished floor. Additional switches to control devices and systems (such as alarms, home theaters and other equipment) not required by the local building code may be installed as desired.</p> <p>(8) All light switches are rocker-type switches or other similar switches that can be operated by pressing them (with assistive devices) – no toggle-type switches may be used.</p> <p>(9) Anyone of the following can be controlled with a (wireless) mobile device such as a smartphone, tablet or laptop computer: HVAC, lighting, alarm system or door locks.</p>
Substantiating Documents:	No
Reason:	<p>These items complement the existing basic accessibility items already included in the standard. They’re common in building because they’re convenient to occupants regardless of their level of mobility. They’re also easy and inexpensive to change if a future owner objects to the switches and faucets.</p> <p>Please consider adding these items because they’ll serve as a guide for the true nature of basic accessibility. It’s not just about getting around in a wheel chair. It’s about living comfortably in a home. These items help remove barriers that highlight disabilities. They help create enabling spaces.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	901.10(3)
Submitter:	Theresa Weston	
Requested Action:	Revise as follows:	

Proposed Change: SCAQMD Rule 1168 in accordance with Table 901.10(3), ~~excluding products that are sold in 16 ounce containers or less and are regulated by the California Air Resources Board (CARB) Consumer Products Regulations.~~

Exception:
Adhesives and sealants subject to consumer product VOC regulations or products packaged as < 1 pound and < 16 fluid ounces shall comply with VOC content limits in Table XXX. VOC content and exempt compound content shall be determined by CARB Final Regulation Order Regulation for Reducing Volatile Organic Compound Emissions from Consumer Products.

**TABLE XXXX
 CONSUMER PRODUCT VOC LIMITS**

<u>ADHESIVE</u>	<u>VOC LIMIT</u>
<u>Adhesives, Aerosol</u>	<u>75</u>
<u>mist spray adhesives</u>	<u>65</u>
<u>web spray adhesives</u>	<u>55</u>
<u>construction, panel, and floor covering adhesive</u>	<u>7</u>
<u>contact adhesive – general purpose</u>	<u>55</u>
<u>contact adhesive – special purpose</u>	<u>80</u>
<u>Sealants and Caulking Compounds</u>	<u>4</u>

The VOC limit is expressed in percent volatile organic compound by weight.

Add Referenced Standards:

California Air Resources Board, CARB Final Regulation Order Regulation for Reducing Volatile Organic Compound Emissions from Consumer Products

Substantiating Documents:	No
Reason:	Covers same area as LogID5211. References the industry standards for consumer and small packages.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	Section: 902 (page 83 of 2012 NGBS)
Submitter:	Ryan Taylor	
Requested Action:	Modify as follows	
Proposed Change:	Add the following to section 902 on page 83:	

	902.2.4 MERV 14 filters or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the pressure drop of the filter used.
Substantiating Documents:	Yes
Reason:	<p>In his presentation at the 2014 RESNET Conference in Atlanta, Iain Walker of the Lawrence Berkeley National Lab stated MERV 14 and up (slide 48 of the presentation linked above) is needed to filter the ultrafine particles created from cooking in homes – a significant source of indoor air pollution. As part of his presentation, Walker noted that the lab has been testing the effectiveness of kitchen exhaust performance and found that the capture efficiency is not as high as many people believe. With a capture efficiency that may be less than 50% (slide 37 of the presentation linked above), we’re contributing pollution we thought was being properly exhausted from the home.</p> <p>Please consider adding this section and adjusting the points of 902.2.3 and 902.2.4 to steer users to the higher MERV rating so we can enjoy healthier homes.</p> <p>http://www.resnet.us/blog/wp-content/uploads/2014/03/RESNET_2014_IAQinTightHomes_presentation.pdf</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	905
Submitter:	Ed Light	
Requested Action:	Add new text as follows:	
Proposed Change:	<p>Section 905. Indoor Air Quality</p> <p>905 Intent. Indoor Air Quality is protected by best practices to control ventilation, moisture, pollutant sources and sanitation. Points for 905 are only awarded if the following are met: 701.4.1.1, 903.1.1, 903.1.2, 903.2 and 903.3, [add section on use of wet materials], pollutant sources are controlled in accordance with sections 901.1 and materials emissions are controlled in accordance with sections 901.4 – 11.</p> <p>905.2 Water infiltration and condensation observed during construction have been eliminated.</p> <p>905.3 Accessible interior surfaces are dry, free of visible dust, suspect growth and water damage.</p>	
Substantiating Documents:	No	
Reason:	NGBS currently does not consider overall IAQ. Recent IAQ complaints regarding new homes primarily involve HVAC deficiencies (already addressed by NGBS) and excessive moisture (only partially addressed). Under this proposal, acceptable IAQ with respect to HVAC operation and control of pollutant sources, materials emissions and wet building materials would be based on compliance with specific	

	NGBS criteria addressing these issues. In addition, documentation would be required establishing that surfaces are clean and dry and that there are no ongoing sources of water infiltration or condensation. This can be established by inspection, with any observed deficiencies corrected during punch out.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD Appendix D	
Submitter:	Josh Jacobs
Requested Action:	Revise
Proposed Change:	901.7 Hard-surface flooring, 901.8 Wall coverings, 901.9 Architectural coatings, 901.10 Adhesives and sealants, 901.11 Insulation UL GREENGUARD Gold Environmental Institute Children & Schools Certification Program UL 2768 EcoLogo CCD 047
Substantiating Documents:	No
Reason:	This is a simple brand change to referenced programs. The requirements of the programs haven't changed since the committee put these in, it is simply a renaming to more align with the marketplace.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD Appendix D	
Submitter:	Josh Jacobs
Requested Action:	Revise
Proposed Change:	UL GREENGUARD Gold Environmental Institute Children & Schools Certification Program GREENGUARD Environmental Institute 2211 Newmarket Parkway, Suite 110 Marietta, GA 30067 http://www.greenguard.org (800) 427-9681 Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com (877) 854-3577

	<p><u>UL 2768 EcoLogo CCD-047</u></p> <p><u>EcoLogo Program 171 Nepean Street, Suite 400 Ottawa, ON, K2P 0B4, CANADA</u> <u>http://www.ecologo.org/ (800) 478-0399</u></p> <p><u>Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096</u> <u>www.ul.com (877) 854-3577</u></p>
Substantiating Documents:	No
Reason:	This is a simple brand change to referenced programs and address' to reflect the purchase of these programs by Underwriters Laboratories. The requirements of the programs haven't changed since the committee put these in, it is simply a renaming and a new address to more align with organizational structure and marketplace.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Additional TG-4 Proposed Changes

Proposal ID: TBD LogID: TG4-01				Section: 801.1(2)								
Submitter:	TG 4 (Michael Cudahy)											
Requested Action:	Modify as follows											
Proposed Change:	Common Hot Water Pipe Internal Volumes											
	OUNCES OF WATER PER FOOT OF TUBE											
	Size Nominal, Inch	Copper Type M	Copper Type L	Copper Type K	CPVC CTS SDR 11	CPVC SCH 40	CPVC SCH 80	PE-RT SDR 9	Composite ASTM F 1281	PEX CTS SDR 9	PP SDR 7.4 F2389	PP SDR 9 F2389
	3/8"	1.06	0.97	0.84	N/A	1.17		0.64	0.63	0.64	<u>N/A</u>	<u>N/A</u>
	1/2"	1.69	1.55	1.45	1.25	1.89	1.46	1.18	1.31	1.18	<u>1.72</u>	<u>1.96</u>
	3/4"	3.43	3.22	2.90	2.67	3.38	2.74	2.35	3.39	2.35	<u>2.69</u>	<u>3.06</u>
	1"	5.81	5.49	5.17	4.43	5.53	4.57	3.91	5.56	3.91	<u>4.41</u>	<u>5.01</u>
	1 ¼"	8.70	8.36	8.09	6.61	9.66	8.24	5.81	8.49	5.81	<u>6.90</u>	<u>7.83</u>
	1 ½"	12.18	11.83	11.45	9.22	13.20	11.38	8.09	13.88	8.09	<u>10.77</u>	<u>12.24</u>
	2"	21.08	20.58	20.04	15.79	21.88	19.11	13.86	21.48	13.86	<u>17.11</u>	<u>19.43</u>
Substantiating Documents:	No											
Reason:	PP (polypropylene) is a newer hot water material for plumbing now recognized and approved in the plumbing codes and should be included here. The types commonly used in residential type plumbing applications are SDR 7.4 and SDR 9.											
TG Recommendation:												
TG Modification of Proposed Change:												
TG Reason:												
TG Vote:												

Proposal ID: TBD LogID: TG4-02		Section: 801.1(2)
Submitter:	TG 4 (Michael Cudahy)	
Requested Action:	Modify as follows	
Proposed Change:	<p><u>802.2 Reclaimed water, graywater, or rainwater pre-piping.</u></p> <p><u>Reclaimed, gray water, or rainwater systems are rough plumbed into buildings for future use where service is not yet available or permitted by applicable codes or by the authority having jurisdiction. 1 point per roughed in system</u></p> <p><i>(renumber following sections)</i></p>	
Substantiating Documents:	No	
Reason:	<p>The NGBS could offer some points for "pre-plumbing" a home for the eventual use of alternate water sources where it may not be available.</p> <p>The NGBS already offers many points for including systems, but, why not offer points for pre-plumbing in areas where it is not yet to code, or currently available? The buildings will last many years, and installing plumbing systems after the building is complete is a serious challenge, if not too difficult to implement.</p>	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD LogID: TG4-06		801.3 # Showerheads
Submitter:	Hope Medina and Joe Green	
Requested Action:	Revise	
Proposed Change:	<p>(2) All shower compartments in the dwelling unit(s) and common areas meet the requirements of 801.3(1) and all showerheads are in accordance with one of the following:</p> <p>(a) 2.0 to less than 2.5 gpm</p> <p>(b) 1.6 to less than 2.0 gpm</p> <p><u>(c) Less than 1.6 gpm</u></p>	
Substantiating Documents:	No	

Reason:	An additional line item was added to allow for those who would choose showerheads which expel water at a rate of less than 1.6 gallons per minute. The addition of this line item will allow for the opportunity for more points for those who would choose a showerhead which exceeds the previous best practice.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG4-03 801.4.1 # Lavatory faucets	
Submitter:	Hope Medina and Joe Green
Requested Action:	Revise
Proposed Change:	(2) all lavatory faucets <u>located within each</u> the dwelling unit(s) and <u>within all common areas of a multi-unit building</u>
Substantiating Documents:	No
Reason:	This section causes some confusion for when to apply it and how it is applied. This was an editorial cleanup to clarify how this section was intended to be administered.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG4-05 801.5 # Water closets and urinals	
Submitter:	Hope Medina
Requested Action:	Revise
Proposed Change:	(2) A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2/CSA B45.1 or ASME A112.19.14, as applicable, and is in accordance with EPA WaterSense Tank Type Toilets.
Substantiating Documents:	No
Reason:	The values and testing standards are what should be placed in this standard. EPA's WaterSense is a governmental funded program which is subject to budget cuts or with a

	change of administration may no longer exist. We have no control over what direction the EPA’s WaterSense program may choose to go, but we do have control over this standard with it’s values. By requiring water closets and urinals to be labeled in accordance to WaterSense we may start to eliminate innovation from smaller companies that would not have the financial opportunity to acquire the WaterSense label, but have products that meet or exceed those specific requirements.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 801.6 # Irrigation Systems	
Submitter:	Hope Medina
Requested Action:	Revise
Proposed Change:	801.6 Irrigation systems. Irrigation system that use up to 1 inch of water for the design of the irrigation or landscape system.
Substantiating Documents:	No
Reason:	Irrigation and landscape systems are offenders of large amounts of water usage and there is no limit assigned to when points can be awarded for them in either this standard or the base codes. Because this is considered an above code program it would make sense to start regulating the amount of water that these systems are designed and installed to.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 801.6 Irrigation Systems	
Submitter:	Brent Mecham, Irrigation Association
Requested Action:	Revise as follows:
Proposed Change:	<u>801.6.1 Multi-stream, multi-trajectory rotating nozzles are installed in lieu of or spray head nozzles with improved performance characteristics shall have a maximum precipitation rate of 1.20 inches per hour for turf or landscaping. Nozzle performance shall be tested by an accredited third party laboratory and have results posted.</u> 6 points
Substantiating Documents:	No
Reason:	There have been advances in nozzle technology that improves distribution uniformity and lowers the precipitation rate from the typical 1.50-2.00 inches per hour range for spray heads nozzles, but not all of these nozzles fall into the “multi-stream, multi-trajectory rotating nozzle” category. By making this change

	with a cap of 1.20 inches per hour (which is a minimum 25% reduction in precipitation rate), it will encourage more innovation by manufacturers to continue improving sprinkler nozzles without limiting the technology to be used. Ultimately it is the irrigation schedule that takes into account the precipitation rate when determining run times, but a lower precipitation rate will mean fewer cycles to apply the required water. Having the nozzle performance validated through testing by an accredited independent third party laboratory would be similar to the process used by EPA WaterSense when they label products.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 801.6 Irrigation Systems	
Submitter:	Brent Mecham, Irrigation Association
Requested Action:	Add new text as follows:
Proposed Change:	<u>801.6.6 All sprinkler irrigation zones utilize pressure regulation so sprinklers operate at manufacturers recommended operating pressure. 3 points</u>
Substantiating Documents:	No
Reason:	Sprinkler nozzles have a preferred or optimal operating pressure to achieve maximum performance, but most irrigation systems are operated at higher pressures than the equipment really needs. Higher pressure then increases the flow and changes the distribution pattern of the nozzle and it is seldom accounted for in the irrigation schedule. Additionally, different sprinklers work best at different pressures, for example spray heads typically work best at 30 psi while rotors or rotating nozzles will work best in the 40-50 psi range depending on the manufacturer. This over pressurization of sprinklers is a silent water waster but it can be regulated with currently available products that will improve irrigation efficiency. Currently EPA WaterSense program is considering labeling pressure regulating spray heads because of the potential in water savings, but pressure regulation can take place at the sprinkler head (for spray heads) or at the zone valve, (applicable to all sprinkler types) depending on the designer's preference when considering all site conditions.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG4-04 801.7.3 # Rainwater	
Submitter:	Hope Medina
Requested Action:	New
Proposed Change:	Rainwater is used to supply a residential fire sprinkler system when installed by a certified professional.
Substantiating Documents:	No
Reason:	Rainwater collection and distribution for domestic water uses is becoming a more common practice. With fire sprinklers requirements also becoming required in more jurisdictions as time goes by we should be offering innovative ideas for water "efficiency" for their supply. NFPA13 section A.24.2(7) states that captured rainwater is not generally considered a

	problem, since NFPA13 has allowed the use of open lakes, rivers, ponds for supply of fire sprinkler systems.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Additional TG 5 Proposed Changes

Proposal ID: TBD	LogID: TBD	701.1.1; 702.2.2
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows:	
Proposed Change:	<p>701.1.1 Minimum Performance Path requirements. A building complying with Section 702 shall exceed the baseline minimum performance required by the ICC IECC <u>2015</u> by 15 percent and shall include a minimum of two practices from Section 704.</p> <p>702.2.2 Energy cost performance analysis. Energy cost savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances. <u>Points are assigned for every 1% better than the ICC IECC 2015 using the formula:</u> <u>Points = 30 + (percent above ICC IECC 2015) * 3.</u> (1) 15 percent (2) 30 percent (3) 40 percent (4) 50 percent </p>	
Substantiating Documents:	No	
Reason:	A green building is not defined only by energy efficiency but by many other metrics as well as demonstrated by Chapters 5,6,8,9 and 10 of the National Green Building Standard. Also, the 2015 IECC is an above the baseline energy code for most municipalities. Asking green buildings to exceed the 2015 IECC by an arbitrary percentage seems unnecessary and has the potential to be prohibitively expensive given the limited areas where the improvement can be captured with the heightened baseline. Complying with the 2015 IECC should qualify a project for Bronze certification. Additional points should be awarded for exceeding the 2015 IECC.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	701.1.3 Alternative bronze level compliance
Submitter:	Aaron Gary	
Requested Action:	Delete and substitute as follows:	
Proposed Change:	<p>As an alternative, any building that qualifies <u>demonstrates compliance with the provisions of as an ENERGY STAR Version 3.1 or ENEGY STAR Multifamily Highrise 3.0 Qualified Homes or demonstrates compliance with the 2012 IECC or Chapter 11 of the 2012 IRC</u> is deemed to meet all the mandatory practices of Chapter 7 and achieves the bronze level for Chapter 7. The buildings achieving compliance under Section 701.1.3 are not eligible for achieving a rating level above bronze. </p>	
Substantiating Documents:	No	

TG Recommendation:	[]
TG Modification of Proposed Change:	[]
TG Reason:	[]
TG Vote:	[]
TG Recommendation:	[]

Proposal ID: TBD	LogID: TBD	701.1.5
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Submitter:	Randall Melvin
Requested Action:	Add new text as follows:
Proposed Change:	<p>701.1.5 Alternate Compliance Path 3 Any building built and verified to meet or exceed the equivalent energy efficiency requirements of the 2006 IECC by 30% shall be deemed to comply with the requirements of this chapter. Where whole house energy efficiency is used to demonstrate equivalence, rather than heating, cooling and water heating alone, the baseline reference design for lighting, appliances and miscellaneous energy loads shall correspond with those contained with ANSI/RESNET 301-2014.</p> <p>Two points shall be awarded for each percent increase in energy efficiency above the equivalent efficiency of the 2006 IECC with a required minimum of 60 points.</p>
Substantiating Documents:	Yes, an email containing substantiating document(s) as attachment(s) will be sent to standards@HomeInnovation.com
Reason:	The proposed change leverages existing credible energy efficient baselines, computational methodologies and software modeling programs that have widespread recognition, acceptance and use by home builders, energy raters, code officials and consumers. For those entities already using one of these established methodologies it will eliminate the need for a largely redundant, but equivalent, energy NGBS energy efficiency specific analysis, thus allowing a streamlined compliance with the National Green Building Standards Energy Chapter. Incorporating this streamlined alternative will increase the acceptance and use of the NGBS. Thirty percent equivalent energy efficiency increase over the 2006 IECC has been chosen as the baseline metric for the following reasons: First, a 30% efficiency increase over the 2006 IECC is effectively equivalent to the energy efficiency of 2015 IECC which has been proposed as the new baseline for the National Green Building Standard. Second the 2006 IECC is a more flexible code than subsequent additions with provides more choices and credit for critical items such as air tightness and equipment tradeoffs. The 2006 IECC aligns with the baseline 100 Index of the ANSI National HERS Index Standard and finally it is supported by many popular energy modeling software programs such as REM Design, REM Rate and Energy Gauge. This proposal is non-exclusionary in that it transparent and it allows for alternative competitive means and methodologies for calculating-demonstrating compliance from a common baseline.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	701.4, 702, 704.4.3, 704.5
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Submitter:	Craig Conner, Gary Klein
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Requested Action:	Add new text as follows:
Proposed Change:	Revise as follows: Update mandatory section for what is now required in 2015 IECC, including at least: air tightness testing, duct testing (when required), sealed air handler, lighting, and service hot water pipe insulation. Where levels were increased or new requirements were added, change points to reflect the new levels.
Substantiating Documents:	No
Reason:	Several items that were optional or non-existent in 2009 IECC are required or sometimes required in 2015 IECC. Base levels for some requirements were changed, for example fraction of lighting that must be efficient and pipe insulation requirements.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 701.4.3																											
Submitter:	R. Christopher Mathis, Mathis Consulting Company																										
Requested Action:	Revise as follows:																										
Proposed Change:	<table border="1" style="width: 100%;"> <tr> <td colspan="2" style="text-align: center;">701.4.3 Insulation and air sealing Building Thermal Envelope</td> </tr> <tr> <td style="width: 80%;">701.4.3.1 Building Thermal Envelope Air Sealing. The building thermal envelope is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped or otherwise sealed with an air barrier material, suitable film, or solid material:</td> <td style="text-align: center; vertical-align: middle;">Mandatory</td> </tr> <tr> <td> (a) All joints, seams and penetrations.</td> <td></td> </tr> <tr> <td> (b) Site-built windows, doors, and skylights.</td> <td></td> </tr> <tr> <td> (c) Openings between window and door assemblies and their respective jambs and framing.</td> <td></td> </tr> <tr> <td> (d) Utility penetrations.</td> <td></td> </tr> <tr> <td> (e) Dropped ceilings or chases adjacent to the thermal envelope.</td> <td></td> </tr> <tr> <td> (f) Knee walls.</td> <td></td> </tr> <tr> <td> (g) Walls and ceilings separating a garage from conditioned spaces.</td> <td></td> </tr> <tr> <td> (h) Behind tubs and showers on exterior walls.</td> <td></td> </tr> <tr> <td> (i) Common walls between dwelling units.</td> <td></td> </tr> <tr> <td> (j) Attic access openings.</td> <td></td> </tr> <tr> <td> (k) Rim joist junction.</td> <td></td> </tr> </table>	701.4.3 Insulation and air sealing Building Thermal Envelope		701.4.3.1 Building Thermal Envelope Air Sealing. The building thermal envelope is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped or otherwise sealed with an air barrier material, suitable film, or solid material:	Mandatory	(a) All joints, seams and penetrations.		(b) Site-built windows, doors, and skylights.		(c) Openings between window and door assemblies and their respective jambs and framing.		(d) Utility penetrations.		(e) Dropped ceilings or chases adjacent to the thermal envelope.		(f) Knee walls.		(g) Walls and ceilings separating a garage from conditioned spaces.		(h) Behind tubs and showers on exterior walls.		(i) Common walls between dwelling units.		(j) Attic access openings.		(k) Rim joist junction.	
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(j) Attic access openings.																											
(k) Rim joist junction.																											

(l) Other sources of infiltration.

701.4.3.2 Air sealing verification and insulation. ~~Grade 3 insulation installation is not permitted. The compliance of the building envelope air tightness and insulation installation shall be verified demonstrated in accordance with Section 701.4.3.2(1) or 701.4.3.2(2).~~

Mandatory

(1) ~~Testing option.~~ Building envelope tightness shall be tested and demonstrated to be less than 3 and insulation installation is considered acceptable when air leakage is less than seven air changes per hour (ACH) in climates zones 3 through 8 and less than 5 ACH in climate zones 1 and 2. Testing shall be conducted in accordance with ASTM E-779 using ~~when tested with a blower door at a test pressure of 33.5 psf (50 Pa).~~ Testing is shall be conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation, and combustion appliances. Testing shall be is conducted under the following conditions:

- (a) Exterior windows and doors, fireplace and stove doors are closed, but not sealed;
- (b) Dampers are closed, but not sealed, including exhaust, intake, makeup air, backdraft and flue dampers;
- (c) Interior doors are open;
- (d) Exterior openings for continuous ventilation systems and heat recovery ventilators are closed and sealed;
- (e) Heating and cooling systems are turned off;
- (f) HVAC duct terminations are not sealed; and
- (g) Supply and return registers are not sealed.

(2) ~~Visual inspection option.~~ Building envelope tightness is and insulation installation are considered acceptable when the items listed in Table 701.4.3.2(2) applicable to the method of construction are. The following items shall be field verified via visual inspection.

**Table 701.4.3.2(2)
Air Barrier and Insulation Inspection Component Criteria**

COMPONENT	CRITERIA
Air barrier and thermal barrier	<ul style="list-style-type: none"> • Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier. • Breaks or joints in the air barrier are filled or repaired. • Air-permeable insulation is not used as a sealing material. • Air-permeable insulation is installed with an air barrier.
Ceiling/attic	<ul style="list-style-type: none"> • Air barrier in dropped ceiling/soffit is <u>substantially aligned with insulation continuous</u> and any gaps are sealed. • Attic access (except unvented attic), knee wall door, or drop-down stair is sealed.
Exterior walls	<ul style="list-style-type: none"> • Corners and headers are insulated. • Junction of foundation and sill plate is <u>air sealed</u>.
Windows and doors	<ul style="list-style-type: none"> • Space between window/door jambs and framing is <u>air sealed</u>.
Rim joists	<ul style="list-style-type: none"> • Rim joists are insulated and include an air barrier.

Floors (including above-garage and cantilevered floors)	<ul style="list-style-type: none"> • Insulation is installed to maintain permanent contact with underside of subfloor decking. • Air barrier is installed at any exposed edge of insulation.
Crawlspace walls	<ul style="list-style-type: none"> • Where installed, insulation is permanently attached to walls. • Exposed earth in unvented crawlspaces is covered with Class I vapor retarder with overlapping joints taped.
Shafts, penetrations	<ul style="list-style-type: none"> • Duct shafts, flue shafts, and utility penetrations opening to the exterior or an unconditioned space are <u>air sealed</u>.
Narrow cavities	<ul style="list-style-type: none"> • Batts in narrow cavities are cut to fit, or a Narrow cavities are air sealed or filled by spray <u>foam</u> /blown insulation.
Garage separation	<ul style="list-style-type: none"> • Air sealing is provided between the garage and conditioned spaces.
Recessed lighting	<ul style="list-style-type: none"> • Recessed light fixtures not installed in the conditioned space are air tight, IC rated, and sealed to drywall.
Plumbing and wiring penetrations	<ul style="list-style-type: none"> • <u>Plumbing and wiring penetrations between conditioned and unconditioned space are air sealed.</u> • <u>Plumbing and wiring penetrations between conditioned space and the outside are air sealed.</u> Insulation is placed between the outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.
Shower/tub adjacent to exterior wall	<ul style="list-style-type: none"> • Showers and tubs adjacent to exterior walls have insulation and an air barrier separation <u>are air sealed from the exterior.</u>
Electrical/phone box in exterior walls	<ul style="list-style-type: none"> • Air barrier extends behind boxes or air sealed-type boxes are installed.
Common wall	<ul style="list-style-type: none"> • Air barrier is installed in common walls between dwelling units.
HVAC register boots	<ul style="list-style-type: none"> • HVAC register boots that penetrate building envelope are <u>air sealed to subfloor or drywall.</u>
Fireplace	<ul style="list-style-type: none"> • Fireplace walls include an air barrier.

701.4.3.3 Insulation Installation. Grade 3 insulation installation is not permitted. The compliance of the building envelope insulation installation is demonstrated in accordance with Section 701.4.3.3(1).

Mandatory

(1) Insulation installation verification. Building envelope insulation installation is considered acceptable when the items listed in Table 701.4.3.3(1) applicable to the method of construction are field verified.

Table 701.4.3.2(2)
Insulation Inspection Verification Criteria

COMPONENT	CRITERIA
<u>Exterior thermal envelope insulation</u>	<ul style="list-style-type: none"> • <u>Installed in substantial contact and continuous alignment with building envelope air barrier.</u>
<u>Ceiling/attic insulation</u>	<ul style="list-style-type: none"> • <u>Installed in accordance with manufacturers' recommendations to achieve the thickness, density, bag count and other metrics to assure U-factor/R-value compliance</u>
<u>Exterior walls</u>	<ul style="list-style-type: none"> • <u>Corners and headers are insulated.</u>
<u>Rim joists</u>	<ul style="list-style-type: none"> • <u>Rim joists are insulated.</u>
<u>Floors</u>	<ul style="list-style-type: none"> • <u>Insulation is installed to maintain permanent contact with underside of subfloor decking.</u>

	<table border="1"> <tr> <td><u>(including above-garage and cantilevered floors)</u></td> <td> <ul style="list-style-type: none"> • <u>Air barrier is installed at any exposed edge of insulation.</u> </td> </tr> <tr> <td><u>Crawlspace walls</u></td> <td> <ul style="list-style-type: none"> • <u>Where installed, insulation is permanently attached to walls.</u> </td> </tr> <tr> <td><u>Narrow cavities</u></td> <td> <ul style="list-style-type: none"> • <u>Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation.</u> </td> </tr> <tr> <td><u>Garage separation</u></td> <td> <ul style="list-style-type: none"> • <u>Insulation is installed on/in all elements separating garages from conditioned space.</u> </td> </tr> <tr> <td><u>Plumbing and wiring</u></td> <td> <ul style="list-style-type: none"> • <u>Insulation is placed between the outside and pipes.</u> • <u>Batt insulation is cut to fit around wiring and plumbing</u> • <u>Sprayed/blown insulation extends behind piping and wiring.</u> </td> </tr> <tr> <td><u>Shower/tub adjacent to exterior wall</u></td> <td> <ul style="list-style-type: none"> • <u>Showers and tubs adjacent to exterior walls are fully insulated and air sealed from the exterior.</u> </td> </tr> </table>	<u>(including above-garage and cantilevered floors)</u>	<ul style="list-style-type: none"> • <u>Air barrier is installed at any exposed edge of insulation.</u> 	<u>Crawlspace walls</u>	<ul style="list-style-type: none"> • <u>Where installed, insulation is permanently attached to walls.</u> 	<u>Narrow cavities</u>	<ul style="list-style-type: none"> • <u>Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation.</u> 	<u>Garage separation</u>	<ul style="list-style-type: none"> • <u>Insulation is installed on/in all elements separating garages from conditioned space.</u> 	<u>Plumbing and wiring</u>	<ul style="list-style-type: none"> • <u>Insulation is placed between the outside and pipes.</u> • <u>Batt insulation is cut to fit around wiring and plumbing</u> • <u>Sprayed/blown insulation extends behind piping and wiring.</u> 	<u>Shower/tub adjacent to exterior wall</u>	<ul style="list-style-type: none"> • <u>Showers and tubs adjacent to exterior walls are fully insulated and air sealed from the exterior.</u>
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	<i>Renumber existing sections as applicable.</i>												

Substantiating Documents:	No
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Reason:	<p>Enter reason (required)</p> <ul style="list-style-type: none"> • This proposal separates the requirements for air sealing from the requirements for insulation. • This restructuring is consistent with a similar restructuring embraced in the 2015 IECC. • This restructuring uses the same language already in ICC 700, but more clearly identifies those aspects associated with air sealing verification versus those associated with insulation installation requirements. • This proposal embodies air leakage verification requirements included in the 2015 IECC. • This proposal will make it easier for builders seeking to comply with ICC 700 by providing easy-to-use checklists for each of these separate building thermal envelope elements. • This proposal will make field verification easier (whether by HERS providers, code officials and other third-party verifiers).
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TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	701.4.3.2
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	

Proposed Change:	<p>(Mandatory) 701.4.3.2 Air sealing and insulation: <u>Insulation Installation</u>. Grade 3 insulation installation is not permitted.</p> <p>(Mandatory) 701.4.3.3 Air sealing and insulation: <u>Verification</u>. The compliance of the building envelope air tightness and insulation installation is demonstrated in accordance with Section 701.4.3.23(1) or 701.4.3.23(2).</p> <p>(1) Testing option. Building envelope tightness and insulation installation is considered acceptable when air leakage is <u>less not more than seven five</u> air changes per hour (ACH) <u>in climate zones 1 and 2, and three air changes per hour (ACH) in climate zones 3 through 8,</u> when tested with a blower door at a pressure of 33.5 psf (50 Pa). Testing is conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation, and combustion appliances. Testing is conducted under the following conditions:</p> <ul style="list-style-type: none"> (a) Exterior windows and doors, fireplace and stove doors are closed, but not sealed; (b) Dampers are closed, but not sealed, including exhaust, intake, makeup air, backdraft and flue dampers; (c) Interior doors are open; (d) Exterior openings for continuous ventilation systems and heat recovery ventilators are closed and sealed; (e) Heating and cooling systems are turned off; (f) HVAC duct terminations are not sealed; and (g) Supply and return registers are not sealed. <p>(2) Visual inspection option. Building envelope tightness and insulation installation are considered acceptable when the items listed in Table 701.4.3.2(2) applicable to the method of construction are field verified.</p>
Substantiating Documents:	No
Reason:	Separate out the mandatory requirement to exclude Grade 3 installation from the testing/verification requirement to minimize confusion. Modify maximums to maintain consistency with the 2015 IECC
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	701.4.4 High Efficacy Lighting
Submitter:	Wayne Stoppelmoor, Schneider Electric	
Requested Action:	Revise as follows:	
Proposed Change:	<p>701.4.4 High-efficacy lighting. A minimum of 50 percent of the total <u>For interior lighting, all hard-wired lighting fixtures or the bulbs in those fixtures shall qualify as high efficacy or equivalent.</u></p> <p><u>Exceptions:</u></p> <p>1. <u>Low voltage: High efficacy lighting shall not be required when all of the following apply:</u></p>	

	<ul style="list-style-type: none"> a. <u>The lamps operate at less than 25 volts.</u> b. <u>Low voltage fixtures are controlled separately from high efficacy lighting.</u> c. <u>The low voltage fixtures are controlled by a dimmer or <i>automatic control device</i>.</u> <p>2. <u>Line voltage: Up to 25 percent of the total number of line voltage fixtures shall be allowed to be exempted where all of the following apply:</u></p> <ul style="list-style-type: none"> a. <u>The non-high efficacy lighting is controlled separately from high-efficacy lighting.</u> b. <u>The non-high efficacy lighting is controlled by a dimmer or automatic control device.</u>
Substantiating Documents:	No
Reason:	<p>Enter reason (required)</p> <ol style="list-style-type: none"> 1. Increases the overall requirement for high-efficiency luminaires from 50% to 100% with certain exceptions designed to save energy and provide maximum flexibility to designers, owners and code officials. 2. Changing the definitions from <i>high efficacy lamps</i> to <i>high efficiency fixtures</i> as determined by lamp efficacy. This means owners, designers, and building code officials would count luminaires (light fixtures) vs. counting light bulbs to determine the amount of high or low efficient lighting on a project. Fixtures often have multiple lamps, making counting more cumbersome for both the owner/designer as well as the code official. By counting fixtures, the code official simply has to identify lamp type, but doesn't have to count individual lamps within each fixtures. 3. Allows for an optional and more flexible energy savings approach for owners and designers by allowing up to 25% low efficiency fixtures as long as lighting controls are used to reduce or turn off the low efficiency fixtures. 4. Clarifies the low voltage lighting exception currently in the code and adds stringency by requiring lighting controls as an energy savings approach for these light fixture types. The current code allows for the use of low voltage with no limits. They are lower in VOLTAGE not WATTAGE. Adding controls will increase the overall energy efficiency of these products.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	701.4.4
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	<p>701.4.4 High-efficacy lighting. A minimum of 5075% of the total <u>interior and exterior</u> hard-wired lighting fixtures, or the bulb-lamps in those fixtures, qualify as high efficacy or equivalent.</p> <p><u>701.4.4.1 Multifamily High-Efficacy lighting. For common spaces and outdoor lighting.....</u></p>	
Substantiating Documents:	No	

Reason:	Consistency with the 2015 IECC. Allowance made for special lighting requirements in MF buildings.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	702.2
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Submitter:	Neil Leslie
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Requested Action:	Amend LogID 5271 by substituting the proposed change below.
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Proposed Change:	<p>702.2 Energy cost performance levels</p> <p>702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost or source energy performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section 506.2 through 506.5, applied as defined in the ICC IECC, is required. Source energy conversion factors for electricity shall be in accordance with Table 7.2.1. Source energy conversion factors for other fuels shall be in accordance with Table 7.2.2.</p> <p>702.2.2 Energy cost performance analysis. Energy cost savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances.</p>
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TABLE 7.2.1 ELECTRICITY GENERATION ENERGY CONVERSION FACTORS BY EPA eGRID SUB-REGION

<u>eGRID Sub-region Acronym</u>	<u>eGRID Sub-region Name</u>	<u>Energy Conversion Factor</u>
<u>AKGD</u>	<u>ASCC Alaska Grid</u>	<u>3.15</u>
<u>AKMS</u>	<u>ASCC Miscellaneous</u>	<u>1.90</u>
<u>ERCT</u>	<u>ERCOT All</u>	<u>3.08</u>
<u>FRCC</u>	<u>FRCC All</u>	<u>3.26</u>
<u>HIMS</u>	<u>HICC Miscellaneous</u>	<u>3.67</u>
<u>HIOA</u>	<u>HICC Oahu</u>	<u>3.14</u>
<u>MROE</u>	<u>MRO East</u>	<u>3.50</u>
<u>MROW</u>	<u>MRO West</u>	<u>3.64</u>
<u>NYLI</u>	<u>NPCC Long Island</u>	<u>3.47</u>
<u>NEWE</u>	<u>NPCC New England</u>	<u>3.03</u>
<u>NYCW</u>	<u>NPCC NYC/Westchester</u>	<u>3.21</u>
<u>NYUP</u>	<u>NPCC Upstate NY</u>	<u>2.66</u>
<u>RFCE</u>	<u>RF East</u>	<u>3.28</u>
<u>RFCM</u>	<u>RF Michigan</u>	<u>3.35</u>
<u>RFCW</u>	<u>RF West</u>	<u>3.29</u>
<u>SRMW</u>	<u>SERC Midwest</u>	<u>3.40</u>
<u>SRMV</u>	<u>SERC Mississippi Valley</u>	<u>3.20</u>
<u>SRSO</u>	<u>SERC South</u>	<u>3.20</u>
<u>SRTV</u>	<u>SERC Tennessee Valley</u>	<u>3.30</u>

<u>SRVC</u>	<u>SERC Virginia/Carolina</u>	<u>3.24</u>
<u>SPNO</u>	<u>SPP North</u>	<u>3.57</u>
<u>SPSO</u>	<u>SPP South</u>	<u>3.26</u>
<u>CAMX</u>	<u>WECC California</u>	<u>2.89</u>
<u>NWPP</u>	<u>WECC Northwest</u>	<u>2.32</u>
<u>RMPA</u>	<u>WECC Rockies</u>	<u>3.82</u>
<u>AZNM</u>	<u>WECC Southwest</u>	<u>3.10</u>

TABLE 7.2.2 OTHER FUEL ENERGY CONVERSION FACTORS

<u>Fuel Type</u>	<u>Energy Conversion Factor</u>
<u>Natural Gas</u>	<u>1.09</u>
<u>Fuel Oil</u>	<u>1.19</u>
<u>LPG</u>	<u>1.15</u>
<u>Purchased Hot Water</u>	<u>1.35</u>
<u>Purchased Steam</u>	<u>1.45</u>
<u>Other</u>	<u>1.1</u>

Substantiating Documents:	No
Reason:	Based on Task Group 5 feedback in May 2014, these tables contain the values approved by the IgCC hearing committee for inclusion in the 2015 version of the code. TG 5 members preferred factors that are consistent with the IgCC.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD		LogID: TBD		Section 702.2	
Submitter:	Craig Conner				
Requested Action:	Add new text as follows:				
Proposed Change:	<p>Modify as follows:</p> <p>702.2 Energy cost performance levels analysis. <i>A building with a projected energy cost savings based on a performance analysis shall receive 1 point per each 0.5% energy cost savings. The performance calculation shall include the impact of HVAC equipment efficiency, air sealing, duct sealing, water heating, appliances, and lighting.</i></p> <p>702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost performance that meets the ICC IECC. A documented analysis using software or procedures in accordance with the ICC IECC Section 405, or ICC IECC Section 506.2 through 506.5 applied as defined in the IECC is required.</p> <p>702.2.2 Energy Cost performance analysis (Delete Section)</p>				

	<p>Either in this section or in the commentary put: <u>The savings shall be defined as</u> <u>IECC energy = IECC (heating + cooling + service water heating)</u> <u>Base other energy = Base (lighting and appliances)</u> <u>Proposed energy (heating + cooling + service water heating + lighting + appliances)</u> <u>Savings = ((IECC energy + Base other energy)-Proposed energy) / IECC energy</u></p>
Substantiating Documents:	No
Reason:	<p>This is intended to allow multiple programs and different calculations of energy performance based on energy cost as specified by the NGBS and the IECC. It would not allow a HERS score (specifically prohibited in the NGBS commentary), but would allow easy use of say a REMrate output . For example see the page titled “2006 Annual Energy Cost Compliance”</p> <p>IECC energy = Heating + Cooling + Water Heating + Lights and Appliances As Designed energy = Heating + Cooling + Water Heating + Lights and Appliances – PV</p> <p>It is very important not to restrict the NGBS to one proprietary source (RESNET) but allow any organization or program which does the energy cost calculation to use this section, provided they do the energy cost calculation specified by the IECC and the NGBS.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	702.2																																																																	
Submitter:	R. Christopher Mathis, Mathis Consulting Company																																																																		
Requested Action:	Add new text as follows:																																																																		
Proposed Change:	<table border="1" style="width: 100%;"> <tr> <td style="width: 75%;"><u>702.2 Minimum Assembly Performance.</u> Fenestration and opaque building thermal envelope assembly U-factors shall be less than or equal to the U-factors provided in Table 702.2(a)</td> <td style="width: 25%; text-align: center;"><u>Mandatory</u></td> </tr> </table> <table border="1" style="width: 100%; text-align: center;"> <tr> <th colspan="9"><u>Table 703.1.1(a)-702.2(a)</u></th> </tr> <tr> <th colspan="9"><u>Equivalent U-Factors Minimum U-Factor Equivalents for Performance Compliance^a</u></th> </tr> <tr> <th><u>Climate Zone</u></th> <th><u>Fenestration U-Factor</u></th> <th><u>Skylight U-Factor</u></th> <th><u>Ceiling U-Factor</u></th> <th><u>Frame Wall U-Factor</u></th> <th><u>Mass Wall U-Factor^b</u></th> <th><u>Floor U-Factor</u></th> <th><u>Basement Wall U-Factor</u></th> <th><u>Crawlspace Wall U-Factor^c</u></th> </tr> <tr> <td><u>1</u></td> <td><u>1.20</u></td> <td><u>0.75</u></td> <td><u>0.035</u></td> <td><u>0.082</u></td> <td><u>0.197</u></td> <td><u>0.064</u></td> <td><u>0.360</u></td> <td><u>0.477</u></td> </tr> <tr> <td><u>2</u></td> <td><u>0.65</u></td> <td><u>0.75</u></td> <td><u>0.035</u></td> <td><u>0.082</u></td> <td><u>0.165</u></td> <td><u>0.064</u></td> <td><u>0.360</u></td> <td><u>0.477</u></td> </tr> <tr> <td><u>3</u></td> <td><u>0.50</u></td> <td><u>0.65</u></td> <td><u>0.035</u></td> <td><u>0.082</u></td> <td><u>0.141</u></td> <td><u>0.047</u></td> <td><u>0.091^c</u></td> <td><u>0.136</u></td> </tr> <tr> <td><u>4</u> <u>except</u> <u>Marine</u></td> <td><u>0.35</u></td> <td><u>0.60</u></td> <td><u>0.030</u></td> <td><u>0.082</u></td> <td><u>0.141</u></td> <td><u>0.047</u></td> <td><u>0.059</u></td> <td><u>0.065</u></td> </tr> </table>		<u>702.2 Minimum Assembly Performance.</u> Fenestration and opaque building thermal envelope assembly U-factors shall be less than or equal to the U-factors provided in Table 702.2(a)	<u>Mandatory</u>	<u>Table 703.1.1(a)-702.2(a)</u>									<u>Equivalent U-Factors Minimum U-Factor Equivalents for Performance Compliance^a</u>									<u>Climate Zone</u>	<u>Fenestration U-Factor</u>	<u>Skylight U-Factor</u>	<u>Ceiling U-Factor</u>	<u>Frame Wall U-Factor</u>	<u>Mass Wall U-Factor^b</u>	<u>Floor U-Factor</u>	<u>Basement Wall U-Factor</u>	<u>Crawlspace Wall U-Factor^c</u>	<u>1</u>	<u>1.20</u>	<u>0.75</u>	<u>0.035</u>	<u>0.082</u>	<u>0.197</u>	<u>0.064</u>	<u>0.360</u>	<u>0.477</u>	<u>2</u>	<u>0.65</u>	<u>0.75</u>	<u>0.035</u>	<u>0.082</u>	<u>0.165</u>	<u>0.064</u>	<u>0.360</u>	<u>0.477</u>	<u>3</u>	<u>0.50</u>	<u>0.65</u>	<u>0.035</u>	<u>0.082</u>	<u>0.141</u>	<u>0.047</u>	<u>0.091^c</u>	<u>0.136</u>	<u>4</u> <u>except</u> <u>Marine</u>	<u>0.35</u>	<u>0.60</u>	<u>0.030</u>	<u>0.082</u>	<u>0.141</u>	<u>0.047</u>	<u>0.059</u>	<u>0.065</u>
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	<u>4</u>								
	<u>6</u>	<u>0.35</u>	<u>0.60</u>	<u>0.026</u>	<u>0.057</u>	<u>0.060</u>	<u>0.033</u>	<u>0.050</u>	<u>0.065</u>
	<u>7 and 8</u>	<u>0.35</u>	<u>0.60</u>	<u>0.026</u>	<u>0.057</u>	<u>0.057</u>	<u>0.028</u>	<u>0.050</u>	<u>0.065</u>
	<p>a. <u>Non-fenestration U-factors shall be obtained from measurement, calculation, or an approved source.</u></p> <p>b. <u>Where more than half the insulation is on the interior, the mass wall U-factors is a maximum of 0.17 in Zone 1, 0.14 in Zone 2, 0.12 in Zone 3, 0.10 in Zone 4 except in Marine, and the same as the frame wall U-factor in Marine Zone 4 and Zone 5 through 8.</u></p> <p>c. <u>Basement wall U-factor of 0.360 in warm-humid locations.</u></p> <p><i>Renumber existing sections as applicable.</i></p>								
Substantiating Documents:	No								
Reason:	<p>Enter reason (required).</p> <ul style="list-style-type: none"> • The National Green Building Standard is an above code program that is intended to encourage innovation and provide flexibility in meeting performance objectives. • Consistent with a similar approach in the 2015 IECC, the prescriptive values from the 2009 IECC are provided as a protective backstop against gaming any performance-based compliance mechanisms. • In keeping with the industry's emphasis on durable, cost-effective efficiency, this standard needs to ensure that short-term compliance solutions are not at the expenses of durable, long-term energy performance. • The 2009 IECC prescriptive values are already included in the 2012 version of ICC 700 prescriptive compliance path. This proposal moves those 2009 values into section 702 to serves as protection against unintended consequences when utilizing the performance path. • This proposal is consistent with the performance compliance approach employed in the 2015 IECC. 								
TG Recommendation:									
TG Modification of Proposed Change:									
TG Reason:									
TG Vote:									

Proposal ID: TBD	LogID: TBD	702.2
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	702.2 Energy cost performance levels.	

	<p>702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost performance that meets the IECC. A documented analysis using software in accordance with IECC, Section <u>R401 or R407 405, or IECC Section 506.2 through 506.5</u>, applied as defined in the IECC, is required.</p> <p>702.2.2 Energy cost performance analysis. Savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances. <u>Modeling is completed building-wide through either whole building energy modeling or a building average of a unit-by-unit approach.</u></p> <p><u>For each percentage of energy savings over 15%, 2 points are awarded. The thresholds for each certification level are as follows.</u></p> <p>(1) Bronze: 15 <u>5</u> percent (2) Silver: 30 <u>10</u> percent (3) Gold: 40 <u>15</u> percent (4) Emerald: 50 <u>20</u> percent</p>
Substantiating Documents:	No
Reason:	Clarification on energy modeling from the TG conference call w/ MF group. Add allowance for continuous points (allow extra points in the energy section). Update the percentages considering more stringent baseline of the 2015 IECC. .
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	702.2.1
Submitter:	Neil Leslie	
Requested Action:	Amend LogID 5271 by extracting from it the proposed change below and considering it separately.	
Proposed Change:	702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section <u>R405, or ICC IECC Section 506.2 through 506.5</u> , applied as defined in the ICC IECC, is required. <u>For heating systems, the standard reference design shall be an air source heat pump. For service water heating, the standard reference design shall be an electric resistance storage water heater. For cooling systems, the standard reference design shall be an air cooled split system air conditioner.</u>	
Substantiating Documents:	No	

Reason:	This proposed change splits the single baseline methodology provisions in 5271 from the conversion factor tables to permit separate consideration of each proposed change. Based on concerns expressed during the May meeting that an all-electric baseline is more equitable, this proposal provides a reasonable level of minimum performance for a green residential building based on a single energy cost budget, while retaining a consistent methodology with IgCC and ASHRAE Standard 189.1 based on ASHRAE Standard 90.1-2013 Appendix G.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD		702.2.1
Submitter:	Neil Leslie	
Requested Action:	Amend LogID 5271 by extracting from it the proposed change below and considering it separately.	
Proposed Change:	702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section 506.2 through 506.5, applied as defined in the ICC IECC, is required. <u>For heating systems, the standard reference design shall be a gas furnace. For service water heating, the standard reference design shall be a gas storage water heater. For cooling systems, the standard reference design shall be an air cooled split system air conditioner.</u>	
Substantiating Documents:	No	
Reason:	This proposed change splits the single baseline methodology provisions in 5271 from the conversion factor tables to permit separate consideration of each proposed change. Based on concerns expressed during the May meeting that an all-electric baseline is not stringent enough compared to the single baselines in the IgCC and ASHRAE Standard 189.1, this proposal provides an efficient level of minimum performance for a green residential building based on a single energy cost budget, and is completely consistent with the stringency and methodology in IgCC and ASHRAE Standard 189.1 based on ASHRAE Standard 90.1-2013 Appendix G.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD LogID: TBD		702.2.1 ICC IECC Analysis
Submitter:	Aaron Gary	
Requested Action:	Add new text as follows:	

Proposed Change:	<u>For MULTIFAMILY PROJECTS, the standard reference design shall for heating systems will be Electric Resistance. The standard reference design for cooling systems shall be a packaged terminal air conditioner.</u>
Substantiating Documents:	No
Reason:	Includes fuel-agnostic single source mechanical baselines for maximum consumer choice and equitable comparison across all climate zones. There is no available actual energy use data for multifamily projects that supports the use of heat pumps for interior units (1 to 3 unconditioned boundary conditions compared to a single family house which has 6+ unconditioned boundary conditions). The higher up-front cost associated with heat pumps (versus electric resistance heat) can not be translated to a discernible ROI that makes business sense given the decreased heating load required by multifamily units. Similarly the energy modeling software available on the market does not adequately address this issue in relation to multifamily units.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	702.2.3
Submitter:	Howard Wiig, Craig Conner	
Requested Action:	Add new text as follows:	
Proposed Change:	<u>702.2.3 Tropical standard reference design:</u> <u>--One-half of the occupied space is air conditioned with federal minimum efficiency equipment.</u> <u>--One-half occupied space includes no air conditioning.</u> <u>--The occupied space is not heated.</u> <u>--Spaces such as lanai are considered occupied space with no heating or cooling, but including lighting.</u> <u>--Solar water heating provides 80 percent of the energy for service water heating.</u> <u>--Glazing in conditioned space has a solar heat gain coefficient of 0.40 and a U-factor of 1.2. (jalousie window)</u> <u>--Permanently installed lighting is in accordance with Section R404 of IECC.</u> <u>--Roof</u> <u> either a “cool roof” that complies with one option in IECC Table C402.3 (u-factor 0.60), or</u> <u> insulation with an R-value of R-15 (u-factor of 0.065).</u> <u>--If present, attics above the insulation are vented and attics below the insulation are unvented.</u> <u>--Wall insulation is R0 (NR, u-factor 0.24)</u> <u>--Operable fenestration provides ventilation area equal to 14 percent of the floor area in each room.</u>	
Substantiating Documents:	No	

Reason:	<p>For the tropical zone the Standard Reference Design is modified to be consistent with IECC R401.2.1 (traditional tropical home with modern equipment).</p> <p>The IECC performance calculation is not appropriate for Hawaii or tropical climates in general. Mainland homes usually want to set up a thermal barrier between the inside and outside. Tropical homes, often want to invite the outside in, to eliminate the need for conditioned rather than condition, be intentionally leaky. and can define part of their home such that it is more outside than inside. Think small home with a big covered porch.</p> <p>This tropical base-case home (standard reference design) includes many elements of traditional design. It focuses on the efficiency items that work in the tropics. Solar water heating is very effective. It uses outdoor living space as a part of the home, either as an enclosed but not conditioned space. Or a “lanai” essentially a furnished porch which probably covered but probably does not have walls. Lacking walls, the lanai is not cooled except by shading and the like. Living partly outside is not a burden, rather it is a preference for many.</p> <p>The tropical base case eliminates efficiency items that are not particularly valuable where the indoor and outdoor temperatures can be very close, for example it eliminates most of the insulation. The tropical design is not concerned about air tightness, but rather about the ability of the home to invite the tropical air and prevailing winds indoors.</p> <p>One can still build a mainland style home. It will probably cost more. A number of efficiency features will need to be added to reduce its energy consumption to the level of the tropical base case home. Of course the NGBS will require further energy reductions beyond this tropical case home to get to a bronze, silver, gold or emerald level.</p> <p>Analysis (to be forwarded) shows the simple traditional tropical design home with modern equipment saves more energy than the more expensive IECC standard reference design home.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 702.3	
Submitter:	Neil Leslie
Requested Action:	Amend LogID 5272 by substituting the proposed change below.

Proposed Change:	<p>702.3 Annual direct and indirect CO₂e emissions. CO₂e emissions calculations shall be performed in accordance with Sections 702.3.1 and 702.3.2. The CO₂e emissions associated with the proposed design shall be less than or equal to the CO₂e emissions associated with the standard reference design.</p> <p>702.3.1 Electricity. Emissions associated with use of electricity shall be calculated by converting the electricity used by the building at the electric utility meter or measured point of delivery to MWh and multiplying by the CO₂e conversion factor in Table 702.3.1.</p> <p>702.3.2 Other Fuels. Emissions associated with the use of fuels other than electricity shall be calculated by the converting the fuel energy used by the building and its site at the utility meter or point of delivery to the site to MWh and multiplying by the emission factors in Table 702.3.1.</p> <p><u>TABLE 702.3.1 CO₂e EMISSION FACTORS</u></p> <table border="1" data-bbox="505 535 1531 1035"> <thead> <tr> <th data-bbox="505 535 1015 611"><u>Building Project Energy Source</u></th> <th data-bbox="1015 535 1531 611"><u>CO₂e lb/kWh (kg/kWh)</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="505 611 1015 686"><u>Grid delivered electricity and other fuels not specified in this table</u></td> <td data-bbox="1015 611 1531 686"><u>1.387 (0.630)</u></td> </tr> <tr> <td data-bbox="505 686 1015 724"><u>LPG or propane</u></td> <td data-bbox="1015 686 1531 724"><u>0.600 (0.272)</u></td> </tr> <tr> <td data-bbox="505 724 1015 762"><u>Fuel Oil (residual)</u></td> <td data-bbox="1015 724 1531 762"><u>0.751 (0.341)</u></td> </tr> <tr> <td data-bbox="505 762 1015 800"><u>Fuel Oil (distillate)</u></td> <td data-bbox="1015 762 1531 800"><u>0.706 (0.320)</u></td> </tr> <tr> <td data-bbox="505 800 1015 837"><u>Coal</u></td> <td data-bbox="1015 800 1531 837"><u>0.836 (0.379)</u></td> </tr> <tr> <td data-bbox="505 837 1015 875"><u>Gasoline</u></td> <td data-bbox="1015 837 1531 875"><u>0.689 (0.313)</u></td> </tr> <tr> <td data-bbox="505 875 1015 913"><u>Natural Gas</u></td> <td data-bbox="1015 875 1531 913"><u>0.483 (0.219)</u></td> </tr> <tr> <td data-bbox="505 913 1015 951"><u>District Chilled Water</u></td> <td data-bbox="1015 913 1531 951"><u>0.332 (0.151)</u></td> </tr> <tr> <td data-bbox="505 951 1015 989"><u>District Steam</u></td> <td data-bbox="1015 951 1531 989"><u>0.812 (0.368)</u></td> </tr> <tr> <td data-bbox="505 989 1015 1035"><u>District Hot Water</u></td> <td data-bbox="1015 989 1531 1035"><u>0.767 (0.348)</u></td> </tr> </tbody> </table>	<u>Building Project Energy Source</u>	<u>CO₂e lb/kWh (kg/kWh)</u>	<u>Grid delivered electricity and other fuels not specified in this table</u>	<u>1.387 (0.630)</u>	<u>LPG or propane</u>	<u>0.600 (0.272)</u>	<u>Fuel Oil (residual)</u>	<u>0.751 (0.341)</u>	<u>Fuel Oil (distillate)</u>	<u>0.706 (0.320)</u>	<u>Coal</u>	<u>0.836 (0.379)</u>	<u>Gasoline</u>	<u>0.689 (0.313)</u>	<u>Natural Gas</u>	<u>0.483 (0.219)</u>	<u>District Chilled Water</u>	<u>0.332 (0.151)</u>	<u>District Steam</u>	<u>0.812 (0.368)</u>	<u>District Hot Water</u>	<u>0.767 (0.348)</u>
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Substantiating Documents:	No																						
Reason:	To provide Task Group 5 the opportunity to consider the single national values in the 2014 version of ASHRAE Standard 189.1, a compliance option for the IgCC.																						
TG Recommendation:																							
TG Modification of Proposed Change:																							
TG Reason:																							
TG Vote:																							

Proposal ID: TBD LogID: TBD 702.3.1	
Submitter:	Neil Leslie
Requested Action:	Amend LogID 5272 by substituting the proposed change below for Table 702.3.1 values in 5272
Proposed Change:	<u>TABLE 702.3.1 ELECTRICITY EMISSION RATE BY EPA eGRID SUB-REGION</u>

<u>eGRID Sub-region Acronym</u>	<u>eGRID Sub-region Name</u>	<u>CO₂e Rate (kg/kWh)</u>
<u>AKGD</u>	<u>ASCC Alaska Grid</u>	<u>0.685</u>
<u>AKMS</u>	<u>ASCC Miscellaneous</u>	<u>0.265</u>
<u>ERCT</u>	<u>ERCOT All</u>	<u>0.698</u>
<u>FRCC</u>	<u>FRCC All</u>	<u>0.617</u>
<u>HIMS</u>	<u>HICC Miscellaneous</u>	<u>0.722</u>
<u>HIOA</u>	<u>HICC Oahu</u>	<u>0.825</u>
<u>MROE</u>	<u>MRO East</u>	<u>0.909</u>
<u>MROW</u>	<u>MRO West</u>	<u>0.964</u>
<u>NYLI</u>	<u>NPCC Long Island</u>	<u>0.698</u>
<u>NEWE</u>	<u>NPCC New England</u>	<u>0.428</u>
<u>NYCW</u>	<u>NPCC NYC/Westchester</u>	<u>0.391</u>
<u>NYUP</u>	<u>NPCC Upstate NY</u>	<u>0.369</u>
<u>RFCE</u>	<u>RFC East</u>	<u>0.543</u>
<u>RFCM</u>	<u>RFC Michigan</u>	<u>0.874</u>
<u>RFCW</u>	<u>RFC West</u>	<u>0.820</u>
<u>SRMW</u>	<u>SERC Midwest</u>	<u>0.960</u>
<u>SRMV</u>	<u>SERC Mississippi Valley</u>	<u>0.572</u>
<u>SRSO</u>	<u>SERC South</u>	<u>0.780</u>
<u>SRTV</u>	<u>SERC Tennessee Valley</u>	<u>0.818</u>
<u>SRVC</u>	<u>SERC Virginia/Carolina</u>	<u>0.581</u>
<u>SPNO</u>	<u>SPP North</u>	<u>0.972</u>
<u>SPSO</u>	<u>SPP South</u>	<u>0.873</u>
<u>CAMX</u>	<u>WECC California</u>	<u>0.370</u>
<u>NWPP</u>	<u>WECC Northwest</u>	<u>0.453</u>
<u>RMPA</u>	<u>WECC Rockies</u>	<u>1.149</u>
<u>AZNM</u>	<u>WECC Southwest</u>	<u>0.671</u>

Substantiating Documents:	No
Reason:	Based on Task Group 5 feedback in May 2014, these tables contain the values approved by the IgCC hearing committee for inclusion in the 2015 version of the code. TG 5 members preferred factors that are consistent with the IgCC.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD		703.1.1
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	

Proposed Change: 703.1.1 UA improvement. The total building thermal envelope UA is less than or equal to the total UA resulting from the U-factors provided in Table 703.1.1(a). Where insulation is used to achieve the UA improvement, the insulation installation is in accordance with Grade 1 requirements as graded by a third-party. Total UA is documented using a RESCheck or equivalent report to verify the baseline and the UA improvement.

Table 703.1.1(a)								
Equivalent U-Factors ^a								
Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor ^b	Floor U-Factor	Basement Wall U-Factor	Crawl space Wall U-Factor ^c
1	<u>1.200.50</u>	0.75	0.035	<u>0.0824</u>	0.197	0.064	0.360	0.477
2	<u>0.650.40</u>	<u>0.750.65</u>	<u>0.0350.030</u>	<u>0.0824</u>	0.165	0.064	0.360	0.477
3	<u>0.500.35</u>	<u>0.650.55</u>	<u>0.0350.030</u>	<u>0.08260</u>	<u>0.1441098</u>	0.047	<u>0.0910^c</u>	0.136
4 except Marine	0.35	<u>0.600.55</u>	<u>0.0300.026</u>	<u>0.08260</u>	<u>0.1441098</u>	0.047	0.059	0.065
5 and Marine 4	<u>0.350.32</u>	<u>0.600.55</u>	<u>0.0300.026</u>	<u>0.05760</u>	0.082	0.033	<u>0.0590</u>	<u>0.0655</u>
6	<u>0.350.32</u>	<u>0.600.55</u>	0.026	<u>0.05745</u>	0.060	0.033	0.050	<u>0.0655</u>
7 and 8	<u>0.350.32</u>	<u>0.600.55</u>	0.026	<u>0.05745</u>	0.057	0.028	0.050	<u>0.0655</u>
Non-fenestration U-factors shall be obtained from measurement, calculation, or an approved source.								
b. Where more the half the insulation is on the interior, the mass wall U-factors is a maximum of 0.17 in Zone 1, 0.14 in Zone 2, 0.12 in Zone 3, 0.10 in Zone 4 except in Marine, and the same as the frame wall U-factor in Marine Zone 4 and Zones 5 through 8.								
c. Basement wall U-factor of 0.360 in warm-humid locations.								

Substantiating Documents:	No
Reason:	Consistency with the 2015 IECC
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD		LogID: TBD		Table 703.1.1(a)																																																																												
Submitter:	R. Christopher Mathis, Mathis Consulting Company																																																																															
Requested Action:	Revise as follows:																																																																															
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Substantiating Documents:	No																																																																															
Reason:	Enter reason (required) <ul style="list-style-type: none"> • The IECC 2015 prescriptive table values are proposed since that code will be the national minimum code in place when this standard is published. • Since ICC 700 is an above code, green building program, the national minimum energy code should be the starting point for prescriptive compliance with the energy provisions of this standard. • This table provides the minimum prescriptive envelope values for builders seeking compliance under the prescriptive path. 																																																																															

	<ul style="list-style-type: none"> While updating this table is intended to be helpful, it is anticipated that most participants in the NGBS program will utilize the performance path to demonstrate above minimum code compliance.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	Table 703.1.1(a) and Table 702.2(a)
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Submitter:	R. Christopher Mathis, Mathis Consulting Company																																									
Requested Action:	Revise as follows:																																									
Proposed Change:	<p>Enter proposed change Must use legislative format for revised text as follows:</p> <ul style="list-style-type: none"> strike through text to be deleted <u>underline text</u> to be added <p>Do NOT use track changes</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="4" style="text-align: center;">Table 703.1.1(a)</th> </tr> <tr> <th colspan="4" style="text-align: center;">Equivalent U-Factors^a</th> </tr> <tr> <th style="text-align: center;">Climate Zone</th> <th style="text-align: center;"><u>Mass Wall Insulation</u> =\geq50% on Exterior</th> <th style="text-align: center;"><u>Mass Wall Insulation</u> >50% on Interior</th> <th style="text-align: center;">Mass Wall U-Factor^b</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;"><u>0.197</u></td> <td style="text-align: center;"><u>0.170</u></td> <td style="text-align: center;">0.197</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;"><u>0.165</u></td> <td style="text-align: center;"><u>0.140</u></td> <td style="text-align: center;">0.165</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;"><u>0.098</u></td> <td style="text-align: center;"><u>0.120</u></td> <td style="text-align: center;">0.141</td> </tr> <tr> <td style="text-align: center;">4 except Marine</td> <td style="text-align: center;"><u>0.098</u></td> <td style="text-align: center;"><u>0.087</u></td> <td style="text-align: center;">0.141</td> </tr> <tr> <td style="text-align: center;">5 and Marine 4</td> <td style="text-align: center;"><u>0.082</u></td> <td style="text-align: center;"><u>0.065</u></td> <td style="text-align: center;">0.082</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;"><u>0.060</u></td> <td style="text-align: center;"><u>0.057</u></td> <td style="text-align: center;">0.060</td> </tr> <tr> <td style="text-align: center;">7 and 8</td> <td style="text-align: center;"><u>0.045</u></td> <td style="text-align: center;"><u>0.057</u></td> <td style="text-align: center;">0.057</td> </tr> </tbody> </table> <p>Delete the corresponding footnote (previously “b”) for mass wall insulation.</p> <p>Note: Rest of the table to remain unchanged.</p> <table border="1" style="margin-left: auto; margin-right: auto; width: 80%;"> <tr> <td style="text-align: center;"> Table 702.2(a) Minimum U-Factor Equivalents for Performance Compliance^a </td> </tr> </table>	Table 703.1.1(a)				Equivalent U-Factors^a				Climate Zone	<u>Mass Wall Insulation</u> =\geq50% on Exterior	<u>Mass Wall Insulation</u> >50% on Interior	Mass Wall U-Factor^b	1	<u>0.197</u>	<u>0.170</u>	0.197	2	<u>0.165</u>	<u>0.140</u>	0.165	3	<u>0.098</u>	<u>0.120</u>	0.141	4 except Marine	<u>0.098</u>	<u>0.087</u>	0.141	5 and Marine 4	<u>0.082</u>	<u>0.065</u>	0.082	6	<u>0.060</u>	<u>0.057</u>	0.060	7 and 8	<u>0.045</u>	<u>0.057</u>	0.057	Table 702.2(a) Minimum U-Factor Equivalents for Performance Compliance^a
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1	<u>0.197</u>	<u>0.170</u>	0.197																																							
2	<u>0.165</u>	<u>0.140</u>	0.165																																							
3	<u>0.098</u>	<u>0.120</u>	0.141																																							
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Table 702.2(a) Minimum U-Factor Equivalents for Performance Compliance^a																																										

Climate Zone	Mass Wall U-Factor ^b	Mass Wall Insulation ≧/>>50% on Exterior	Mass Wall Insulation ≥50% on Interior
1	<u>0.197</u>	<u>0.197</u>	<u>0.17</u>
2	<u>0.165</u>	<u>0.165</u>	<u>0.14</u>
3	<u>0.141</u>	<u>0.141</u>	<u>0.12</u>
4 except Marine	<u>0.141</u>	<u>0.141</u>	<u>0.10</u>
5 and Marine 4	<u>0.082</u>	<u>0.082</u>	<u>0.057</u>
6	<u>0.060</u>	<u>0.082</u>	<u>0.057</u>
7 and 8	<u>0.057</u>	<u>0.057</u>	<u>0.057</u>

a. Non-fenestration U-factors shall be obtained from measurement, calculation, or an approved source.

b. Where more than half the insulation is on the interior, the mass wall U factors is a maximum of 0.17 in Zone 1, 0.14 in Zone 2, 0.12 in Zone 3, 0.10 in Zone 4 except in Marine, and the same as the frame wall U factor in Marine Zone 4 and Zone 5 through 8.

be. Basement wall U-factor of 0.360 in warm-humid locations.

Note: Rest of the table to remain unchanged.

Substantiating Documents:	No
Reason:	<p>Enter reason (required)</p> <ul style="list-style-type: none"> • This proposal takes an often overlooked footnote regarding the amount and location of mass wall insulation and clarifies the requirement by making a separate entry in the prescriptive table for each. • The same formatting change is proposed for the compliance tables in the Prescriptive path and for the tables in the Performance path. • No changes were made to code minimum efficiency levels, just clarification of the requirements in the tabular information. • The revised values in Table 703.1.1(a) are intended to match the values in the referenced energy code (presumed to be the 2015 IECC as proposed in a separate proposal).
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	Table 703.1.1(e) Equiv. U-Factors
Submitter:	Howard Wiig	
Requested Action:	Add new text as follows:	
Proposed Change:	<p>Add <u>New Climate Zone 0 to Equiv. U Factor Table:</u> <u>Fenestration U-Factor .40</u> <u>Skylight U-Factor: .40</u> <u>Ceiling U-Factor: .035</u> <u>Frame Wall U-Factor 0.197</u> <u>Floor U-Factor: N/A</u> <u>Basement U-Factor N/A</u></p>	

	<u>Crawlspace U-Factor N/A</u> <u>Exemption fully shaded glazing and walls</u> <u>Add Definition of Tropical Climate Zone</u>
Substantiating Documents:	No
Reason:	Building components receiving direct solar radiation must have stringent requirements to retard solar heat gain. Building components not receiving direct solar radiation do not need insulation due to very low delta T between interior and ambient exterior temperatures
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	703.1.3
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	Table 703.1.3 Exterior Mass Walls Mass wall thickness	
Substantiating Documents:	No	
Reason:	Confusion exists concerning the wall thickness, e.g. if it includes the insulation for example in an ICF structure. The mass thickness referenced in the table applies only to the mass.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	703.1.5																								
Submitter:	Amber Wood																									
Requested Action:	Revise as follows:																									
Proposed Change:	703.1.5 Building envelope leakage. The maximum building envelope leakage rate is in accordance with Table 703.1.5 and whole building ventilation is provided in accordance with Section 902.2.1. Table 703.1.5 Building Envelope Leakage																									
	Max Envelope Leakage Rate	<table border="1"> <tr> <th colspan="8">Climate Zone</th> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> <tr> <td colspan="8" style="text-align: center;">POINTS</td> </tr> </table>	Climate Zone								1	2	3	4	5	6	7	8	POINTS							
Climate Zone																										
1	2	3	4	5	6	7	8																			
POINTS																										

	(ACH50)								
	5	2	3	3	4	6	7	8	9
	4	3	4	5	7	10	12	13	14
	3	3	5	6	9	13	15	17	19
	2	4	6	8	11	15	18	20	23
	1	4	5	8	12	17	19	22	24
Substantiating Documents:	No								
Reason:	Consistency with the 2015 IECC. Note – Table point values have not been adjusted.								
TG Recommendation:									
TG Modification of Proposed Change:									
TG Reason:									
TG Vote:									

Proposal ID: TBD	LogID: TBD	703.1.6.1
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	703.1.6.1 and 703.1.6.2 (Add note below tables) <u>Exception: For Sun-tempered designs meeting all of the requirements of 703.6.1, the SHGC is permitted to be 0.40 or higher on only the south facing glazing.</u>	
Substantiating Documents:	No	
Reason:	This exception resolves the conflict between the sun-tempered design requirements and the SHGC values in the tables in section 703.1.6.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	Table 703.1.6.2(a) Enhanced Fenestration Specifications
Submitter:	Howard Wiig	
Requested Action:	Add new text as follows:	
Proposed Change:	<u>Add Tropical climate Zone 0.</u> <u>U-Factor Windows and Exterior Doors 0.40</u> <u>SHGC Windows and Exterior Doors 0.25</u> <u>U-Factor Skylights and TDD's 0.40</u>	

	<u>SHGC Skylights and TDD's 0.25</u> <u>Exempt: Fully shaded glazing</u> <u>Points: Up to10</u>
Substantiating Documents:	No
Reason:	Fenestration and skylight performance has improved rapidly. High performance glazing is cost competitive. Additional glazing enhances daylighting opportunities.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	703.2
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	<p>703.2 HVAC equipment efficiency.</p> <p><u>For multiple heating or cooling systems in one home, practices 703.2.1 through 703.2.6 apply to the system that supplies 80% or more of the total heating or cooling load. Where multiple systems each serve less than 80% of the total heating or cooling load, practices 703.2.1 through 703.2.6 apply to the system with the fewest points.</u></p>	
Substantiating Documents:	No	
Reason:	Some confusion exists when a home has multiple systems of different types. This change clarifies that the main system or if multiple systems of similar capacity are used, the least efficient system applies to all.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	703.2, 703.3, 703.4, 801.2, 902.1, 602.2, 1, 801.6, 801.73, 11.602.2, 11.902.1.4
Submitter:	Craig Conner, Gary Klein	
Requested Action:	Add new text as follows:	
Proposed Change:	Revise as follows:	

	<p>Base all equipment efficiency points tables on updated federal minimums which will be in effect in 2015.</p> <p>Update all Energy Star and WaterSense to reflect levels that will be in effect in 2015. This affects Chapters 6, 7, 8 9 and 11. Remove words Energy Star” and “WaterSense” from NGBS, except for “Energy Star Homes”. Replace with key efficiency criteria (usually one or two numbers). Change metrics for efficiency if needed.</p> <p>Consider what to do with WaterSense Budget Approach. At the least it is significantly out of date.</p> <p>Note in commentary that Energy Star / WaterSense levels change over the years.</p>
Substantiating Documents:	No
Reason:	<p>Goal is to update base efficiencies and to eliminate most uses of the proprietary Energy Star and maybe WaterSense programs.</p> <p>Federal minimum equipment efficiencies have changed since the 2012 NGBS. An update is needed to adjust at least water heaters, air conditioner, heat pump, and gas furnace levels. Any other federally regulated appliances whose minimum efficiencies have changed should also change.</p> <p>The points tables should all assume the federal minimum as 0 (zero) points. Energy Star levels have also changed or are changing. The levels in future energy star products should occur in the tables as a specific item with points.</p> <p>In some cases the metric used by Energy Star will/has changed. For example Energy Star clothes washers have now gone to Version 7.0 NGBS references Version 5.1 dated January 1 2011. NGBS should try to use the same key metrics that Energy Star uses. For example, clothes washers will be IWF (water) and IMEF (energy) see: https://www.energystar.gov/products/specs/system/files/ENERGY%20STAR%20Final%20Version%207.0%20Clothes%20Washer%20Program%20Requirements.pdf</p> <p>If WaterSense Water Budget Approach is retained, consider an additional prescriptive approach that accomplishes the same goal without a calculation and 2) eliminating the use of its “Option 2”, which is simply a limit on the amount of turf grass, but not the amount of water. See: http://www.epa.gov/watersense/docs/home_final_waterbudget508.pdf</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Submitter: Neil Leslie

Requested Action: Add new

Proposed Change: Add Tables 703.2.3(2) and 703.4.2(2) as follows:

GREEN BUILDING PRACTICES							POINTS
<p>703.2.3 Heat pump heating efficiency is in accordance with Table 703.2.3(1) or Table 703.2.3(2). ...</p> <p>(1) Electric Heat Pump</p> <p style="text-align: center;">Table 703.2.3(1) <u>Electric Heat Pump Heating</u></p> <p style="text-align: center;">...</p> <p>(2) Gas Engine-Driven Heat Pump</p> <p style="text-align: center;">Table 703.2.3(2) <u>Gas Engine-Driven Heat Pump Heating</u></p>							Per Table 703.2.3(1) or Table 703.2.3(2)
<u>Efficiency</u>	<u>Climate Zone</u>						
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6-8</u>	
<u>POINTS</u>							
<u>>1.3 COP at 47°F</u>	<u>2</u>	<u>7</u>	<u>11</u>	<u>14</u>	<u>16</u>	<u>18</u>	

GREEN BUILDING PRACTICES							POINTS
<p>703.2.4 Cooling efficiency is in accordance with Table 703.2.4(1) or Table 703.2.4(2). ...</p> <p>(1) Electric Air Conditioner or Heat Pump</p> <p style="text-align: center;">Table 703.2.4(1) <u>Electric Air Conditioner and Heat Pump Cooling</u></p> <p style="text-align: center;">...</p> <p>(2) Gas Engine-Driven Heat Pump</p> <p style="text-align: center;">Table 703.2.4(2) <u>Gas Engine-Driven Heat Pump Cooling</u></p>							Per Table 703.2.4(1) or Table 703.2.4(2)
<u>Efficiency</u>	<u>Climate Zone</u>						
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6-8</u>	
<u>POINTS</u>							
<u>>1.2 COP at 95°F</u>	<u>7</u>	<u>5</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>0</u>	

Substantiating Documents:	No
Reason:	<p>Allows recognition of the energy efficiency benefits of newly available gas engine-driven heat pumps with rated COP's of 1.2 to 1.4 depending on climate zone. In heating mode this is significantly higher than a condensing gas furnace, and in cooling mode on a cost or source energy basis it is equivalent to a 15 or 16 site energy SEER air conditioner.</p> <p>Supplemental information can be found at: http://intellichoiceenergy.com/product-info/8-ton-multi-zone http://www1.eere.energy.gov/manufacturing/distributedenergy/pdfs/swgas_heatpump.pdf http://proceedings.asmedigitalcollection.asme.org/proceeding.aspx?articleid=1626608</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD Table 703.3(1) Appliances	
Submitter:	Howard Wiig
Requested Action:	Add new text as follows:
Proposed Change:	<p>Add Tropical Climate Zone ENERGY STAR or equivalent appliances are installed (points) Refrigerator (3) Washing Machine (1) Dishwasher (1) Induction Range (1) TV Cable Box (1) <u>Add one point each for demand-response capability</u></p>
Substantiating Documents:	No
Reason:	Energy Star appliances are important in the tropics because they produce less heat. Set-top boxes have become major energy users in many homes. Demand response is an extremely effective means of shaving peak loads.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD Table 703.3.2 Ductless cooling system	
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Submitter:	Howard Wiig
Requested Action:	Add new text as follows:
Proposed Change:	Add a Tropical Climate Zone. Ductless cooling system Points: 11
Substantiating Documents:	No
Reason:	The Tropical Climate Zone includes a mandatory requirement no more than 50% of enclosed space shall be mechanically cooled. Cooling is therefore confined to limited areas such as bedrooms. Ductless systems are ideally suited to limited areas, reduce costs and improve efficiency.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	703.4.3
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Submitter:	Gary Klein, Craig Conner
Requested Action:	Add new text as follows:
Proposed Change:	Revise as follows: 703.4.3 Drain-water heat recovery system is installed in multi-family units.
Substantiating Documents:	No
Reason:	Drain-water heat recovery works in single family homes too.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	703.5.1
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Submitter:	Amber Wood		
Requested Action:	Revise as follows:		
Proposed Change:	703.5.1 Hard-wired lighting. Hard-wired lighting is in accordance with one of the following: (1) A minimum percent of the total hard-wired <u>interior</u> luminaires <u>or lamps</u> qualify as ENERGY STAR or equivalent. <div style="text-align: center;"> <p>Table 703.5.1 Hard-wired Lighting</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 15%;"></td> <td style="width: 85%; text-align: center;">Climate Zone</td> </tr> </table> </div>		Climate Zone
	Climate Zone		

Minimum Percent of Fixtures	1	2	3	4	5	6	7	8
	Points							
75%	5	4	3	3	3	2	2	1
95%	9	6	5	4	4	3	2	1

(2) A minimum of 80 percent of the exterior lighting wattage has an efficiency of 40 lumens per watt minimum or be a solar-powered light fixture.

(3) Common area lighting power density (LPD) is less than 0.51 W/sqft.

Substantiating Documents:	No
Reason:	Consistency with the 2015 IECC. Separate the exterior (2) from the interior (1) and make explicit. Add credit for common area LPD
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	703.6.3 Passive cooling design
Submitter:	Howard Wiig	
Requested Action:	Add new text as follows:	
Proposed Change:	<u>703.3.6 (7) In Tropical Climate Zone 0, attached unconditioned spaces that provide full shade (PF 1.0 or greater, including garages and lanais) of east, west and south faces shading 10-20% of enclosed wall/window area, 10 points;</u> <u>Shading 21% 30% of enclosed wall/window area: 20 points</u> <u>Shading 30% or more of enclosed wall/window area: 30 points.</u> <u>For Shading Factors of 0.5 to 0.99 assign ½ as many points</u>	
Substantiating Documents:	No	
Reason:	Shading is the most effective means of ameliorating heat gain in the Tropics, where the typical delta T between the interior and exterior ambient is approximately 10F. The tropical climate lends itself to outdoor (low EUI) living and covered areas encourage same.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	704.2.1 Occupancy Sensors
Submitter:	Wayne Stoppelmoor, Schneider Electric	

Requested Action:	Revise as follows:
Proposed Change:	<p>704.2.1 Occupancy Sensors. Occupancy sensors are installed on indoor lights, and photo or motion sensors are installed on outdoor lights to control lighting.</p> <p><u>704.2.1 Interior Lighting Controls.</u> In dwelling units, permanently installed lighting fixtures shall be controlled with a vacancy sensor, occupancy sensor, or dimmer for:</p> <p>(1) 25 <u>75</u> percent of lighting fixtures. (2) 50 <u>100</u> percent of lighting fixtures.</p>
Substantiating Documents:	No
Reason:	<p>The most efficient light is the one that is off. The current standard does not effectively account for use of lighting controls as a means of energy savings. Regardless of efficacy, light sources achieve maximum energy savings when they are off or reduced to the minimum required by the task. For 120 volt incandescent/halogen sources, dimming reduces energy use, increases lamp life, and dimmers are inexpensive. Automatic controls turn lighting off when not being used. (See reference documentation listed below.).</p> <p>Several reports document savings from using controls residentially, such as:</p> <ul style="list-style-type: none"> • http://www.lrc.rpi.edu/programs/lightingTransformation/economics/table2.asp [shows 20% to 40% savings depending on space type for using occupancy sensors] • http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/current/Reports/Residential/Lighting/open Residential Lighting PDF and see page 32 [shows 10% savings from dimmers, 30% savings from occupancy sensors] • Heschong Mahone Group Lighting Efficiency Technology Report Vol. 1, see page 83. www.energy.ca.gov/efficiency/lighting/VOLUME01.PDF [shows 20% savings from dimmers and 54% savings from occupancy sensors]
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	704.2.1
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	704.2.1 Occupancy sensors.	

	<p><u>704.2.1.1 Interior Lighting.</u> Occupancy sensors are installed on <u>the interior living space</u> indoor lights</p> <p><u>(1) 25 percent of lighting</u></p> <p><u>(2) 50 percent of lighting</u></p> <p><u>704.2.1.2 Exterior Lighting.</u> and pPhoto or motion sensors are installed on outdoor lights to control lighting.</p> <p><u>(1) 25 percent of lighting</u></p> <p><u>(2) 50 percent of lighting</u></p> <p><u>704.2.1.3 Common Areas.</u> Occupancy sensors are installed on <u>common area lights</u> (excluding storage, electrical, and mechanical, & exterior lighting).</p>
Substantiating Documents:	No
Reason:	Consistency with the 2015 IECC. Allowance made for special lighting requirements in MF buildings.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	704.2.3
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	704.2.3 Lighting Outlets. Occupancy sensors are installed for a minimum of 80% of hard-wired lighting outlets in <u>the interior living space</u> .	
Substantiating Documents:	No	
Reason:	Confusion exists concerning the extent of the required fixtures. – exclude exterior, garages, crawlspaces etc.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	704.2.4
Submitter:	Amber Wood	
Requested Action:	Add new text as follows:	

Proposed Change:	704.2.4 Exhaust Fans. Occupancy sensors are installed on 80 percent of unit exhaust fans.
Substantiating Documents:	No
Reason:	Consistency with the 2015 IECC. Allowance made for special lighting requirements in MF buildings.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	704.5.1
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	<p>704.5.1 Third party on-site inspection is conducted to verify compliance with all of the following as applicable. Minimum of two inspections are performed: one inspection after insulation is installed and prior to covering, and another inspection upon completion of the building. Where multiple buildings or dwelling units of the same model are built by the same builder, a representative sample inspection of a minimum of 15 percent of the buildings or dwelling units is permitted.</p> <p><u>Multi-Unit Building Note: For multiple buildings or dwelling units of the same model that are built by the same builder, a representative sample inspection of a minimum of 15 percent of the buildings or dwelling units is permitted</u></p>	
Substantiating Documents:	No	
Reason:	Delete the direct reference to sampling for all buildings. Recommended to add a new sub-section for multi-family units to allow sampling. Sampling protocols are most effective when the same contractor is performing the same work on identical units over a limited time period – a situation that is not often the case in single family home construction today.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	701.4 Mandatory practices 704.5.2.x HVAC Duct Leakage Testing
Submitter:	Aaron Gary	
Requested Action:	Add new text as follows:	

Proposed Change:	<u>For projects where duct testing is not required under the 2015 IECC because of Scope (R401.1) or Compliance path selected (R401.2), ducts are pressure tested to determine air leakage in accordance with the following:</u> (1) <u>A total leakage test of the ducts is conducted in accordance with 2015 IECC R403.3.3 and R403.3.4.</u> (2) <u>Testing conducted by an independent third-party.</u>
Substantiating Documents:	No
Reason:	Many multifamily projects that follow NGBS certification are not required to do duct testing by Code. Duct testing is not required by Commercial IECC (if they are 4 stories or taller). These projects should be rewarded for implementing above-code energy-efficient practices. This version applies to all projects where Duct Leakage testing is not Mandatory under the 2015 IECC for Commercial (Multifamily 3+ stories) or Residential (when they follow the Performance or ERI paths
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD		704.5.2.1
Submitter:	Amber Wood	
Requested Action:	Delete without substitution as follows:	
Proposed Change:	704.5.2.1 Building envelope leakage testing. (1) A blower door test and a visual inspection are performed as described in 701.4.3.2. (2) Third party verification is completed.	
Substantiating Documents:	No	
Reason:	Delete the entire section. The 2015 IECC requires both visual and testing verification. Points are awarded in 703 for Grade 1 and Grade 2 insulation and for blower door testing.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD LogID: TBD		704.5.3
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	704.5.3 Insulating hot water pipes. Insulation with a minimum thermal resistance (R-value) of at least R-3 is applied to the following:	

- (a) piping larger than 3/4 in. outside diameter
- (b) piping serving more than one dwelling unit
- (c) piping branches serving kitchen sinks
- (d) piping located outside the conditioned space
- (e) piping from the water heater to a distribution manifold
- (f) piping located under a floor slab
- (g) buried piping
- (h) piping in recirculation systems other than demand recirculation systems
- ~~(i) all other piping except the piping that meets the length requirements of Table 704.5.3~~

~~Table 704.5.3
Maximum Pipe Run Length~~

Nominal Pipe Diameter of largest pipe in run (inches)	Maximum pipe length (feet)¹
3/8	30
1/2	20
3/4	10

~~1. Total length of all piping from the source of hot water (either a water heater or distribution manifold (or tee) on a trunk line or a recirculation loop) to a point of use~~

Substantiating Documents:	No
Reason:	The table was deleted in the 2015 IECC.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	Sections 202 (Definitions) and 705 (Innovative Practices)
Submitter:	Steve Rosenstock	
Requested Action:	Add new section 703.5.5	
Proposed Change:	<p><u>703.5.5 Gas Lamp / Lighting Fixtures.</u> Gas Lamps or Gas Decorative Lighting Fixtures are installed.</p> <ul style="list-style-type: none"> (1) <u>Gas Lamp/Fixture installed with a continuously burning pilot light -50 Points per Lamp or Fixture Installed</u> (2) <u>Gas Lamp/Fixture installed without a continuously burning pilot light and with manual or automatic shutoff controls -10 Points per Lamp or Fixture Installed</u> 	

Substantiating Documents:	Yes (web site links to documents in the reason statement).
Reason:	<p>The current standard is silent on the use of gas lamps in green homes. No points are added or deducted for their use. This new section will properly account for their energy usage.</p> <p>According to the latest DOE Energy Information Administration publication Residential Energy Consumption Survey (RECS 2009), the average home in the US uses about 89.6 Million Btu's per year (site energy). See http://www.eia.gov/consumption/residential/data/2009/index.cfm?view=consumption#summary</p> <p>Typical gas lighting fixtures use anywhere from 1,500 Btu/hour to 3,500 Btu/hour (examples can be found at http://www.mhpggrills.com/everglow-gas-lights/features/ and http://www.faubourglighting.com/faq.asp). A typical gas lamp with a continuous burning pilot light that uses 2,500 Btu/hour will consume 18 therms of gas per month, or 216 therms (21.6 Million Btu's) per year. This would be equivalent of 24.1% of the total energy used annually by a typical house in the US, and a higher percentage of the energy used annually in a green home.</p> <p>At an average US price of \$1.128 per therm (See the DOE notice in the <i>Federal Register</i>, "Representative Average Unit Costs of Energy", March 18, 2014, page 15112), this typical gas lamp will cost \$243.65 to operate annually.</p> <p>According to the AGA publication <i>Gas Facts 2013</i>, the typical residential water heater in the US consumed 19.1 Mcf (about 196 therms) per year in 2011. According to this publication, a typical gas range used 4.3 Mcf (about 44 therms), and a typical gas clothes dryer also used 4.3 Mcf (about 44 therms). In other words, one gas light with a continuously burning pilot light will use more energy in a year than a residential gas water heater, and well over two times more energy in a year than a residential gas range and residential gas clothes dryer <u>combined</u>.</p> <p>The typical gas lamp using 2,500 Btu/hour (equivalent to 732.5 Watts) will produce about as much light as a traditional 60 Watt incandescent light bulb, which produces about 800-860 lumens of light (see http://www.washingtongasliving.com/For_Your_Home/OutdoorProducts/Lighting.xml), or a federally compliant 43 Watt halogen bulb, or a 13 Watt compact fluorescent bulb, or a 10 Watt LED bulb. In other words, the gas light will consume anywhere from 17 to 73 times more energy to produce the same amount of light.</p> <p>If installed with controls (photosensors, on/off switches, electronic ignitions, etc), the typical energy use will be reduced by 80%, but they will still be using 17 to 73 times more energy than electric lighting fixtures.</p> <p>This proposal will account for the energy usage of gas lights in green homes, consistent with the methodology used for estimated energy impacts in the standard.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	Sections 202 (Definitions) and 705 (Innovative Practices)
Submitter:	Steve Rosenstock	
Requested Action:	Add new definition and section	
Proposed Change:	<p>Section 202:</p> <p><u>GRID-INTERACTIVE ELECTRIC THERMAL STORAGE (GETS).</u> <u>An energy storage system that provides electric system grid operators such as utilities, independent system operators (ISOs) and regional transmission organizations (RTOs), with variable control of a building's space heating and service water heating end uses.</u></p> <p><u>705.7 Grid-Interactive Electric Thermal Storage System.</u> <u>A Grid-Interactive Electric Thermal Storage System is installed.</u></p> <p>(1) <u>Grid-Interactive Water Heating System 1 Point</u></p> <p>(2) <u>Grid-Interactive Space Heating System 2 Points</u></p>	

Substantiating Documents:	Yes (web site links to documents in the reason statement).
Reason:	<p>Grid-Interactive Electric Thermal Storage is an innovative technology with a growing reputation among market participants as a solution to some of today's most pressing energy issues.</p> <ol style="list-style-type: none"> 1. Building owners like GETS because it provides affordable and dependable space and service water heating for their structures. 2. Electric grid operators like GETS because it helps them balance energy supply and demand in real time, thereby increasing grid stability while simultaneously reducing costs, energy and emissions. Maintaining grid stability becomes more challenging as the output of renewable energy generation (like wind and solar) is added to electric grids which explains why grid operators across the country (as well as the Federal Energy Regulatory Commission and the U.S. Department of Energy) have expressed their support for energy storage. 3. Renewable energy developers like GETS because it complements their projects by providing cost-effective energy storage when renewable energy production exceeds demand. Without adequate energy storage, these projects are often curtailed. <p>What is a Grid-Interactive Electric Thermal System (“GETS”)? For building owners and operators, GETS serve as traditional space and service water heating systems. GETS provide affordable and dependable space conditioning and domestic hot water. Nonetheless, GETS have significantly different operational and energy consumption characteristics from traditional space and service water heating systems as described in more detail below.</p> <p>Thermal battery. Electric utilities dispatch their generators in the order from the most cost efficient (base load generation) to the least cost efficient (peaking load generation). GETS complements the efficient dispatch of generation by utilities by allowing the storage of energy that is produced more efficiently for use later, and by avoiding the requirement to operate less efficient generators at peak load conditions. GETS accomplishes this feat by charging (heating bricks, water, or other storage media) at times when utilities have excess capacity. Often this is at night but it can vary between utilities. Because the system is grid-interactive, a GETS can charge at times that are optimum for the utility, allowing utilities to efficiently manage their peak demands and their customer costs. Heat that is stored for later use effectively makes GETS a thermal battery.</p> <p>Renewable energy. GETS is a unique complement to the generation of electricity from renewable energy like wind and solar. Many times peak power production from renewable energy sources does not coincide with a utility's demand for electricity. As an example, wind generation usually peaks at night when demand for energy is not usually the greatest. For that reason, the Bonneville Power Administration in the Pacific Northwest and ERCOT in Texas in past years were forced to curtail the generation from wind generators at certain times because it didn't need all the electricity the wind generators were producing. GETS is a good fit for storing excess renewable energy and has been successfully deployed in Bonneville's service territory as well as the service territory of other electric utilities.</p> <p>Reduces winter peak. When electrical demands on a utility's system grow, it may be forced to dispatch less efficient generators to meet that demand, so to the extent demand is reduced the utility avoids costs (that would ultimately be passed on to customers) and saves energy. GETS allows the storage of energy produced by more efficient and/or renewable generators.</p> <p>Replaces fossil fuel in utility grid control. When electrical demand on a utility's grid changes (up or down), the most immediate system response is for the grid's frequency to drift away from ideal (60 cycles per second). To control these frequency excursions, utilities have traditionally operated fossil fuel generators to add voltage to the grid to raise the frequency as it falls away from 60 cycles. Grid-interactive GETS can be dispatched in lieu of fossil fuel generators to remedy frequency excursions, thereby saving energy and costs. According to a Kema report, usage of a non-carbon emitting resource such as GETS for providing regulation services can reduce carbon emissions for regulation by nearly 65%. GETS offer significant benefits to customers, including the ability to store renewable energy, the ability to reduce utility costs, and the ability to reduce the consumption of fossil fuel by utilities in the regulation of system frequency.</p> <p>Bibliography: See article at http://www.pjm.com/~media/about-pjm/newsroom/renewables/greener-grid.ashx for information on the value of ETS in the PJM Interconnection service territory.</p> <p>See article at http://www.sustainablebusinessoregon.com/articles/2012/04/bonneville-power-calls-for-first-wind.html?page=all for information on Bonneville Power curtailment of wind generation amounting to almost 100,000 MWH's in 2011.</p> <p>See Kema Consulting report (Commissioned by the U.S. Department of Energy under the supervision of Sandia National Laboratory) noting significant reduction in carbon emissions at http://prod.sandia.gov/techlib/access-control.cgi/2008/088229.pdf.</p> <p>See http://www.steffes.com/off-peak-heating/ets.html for more information on utility benefits of WTS, including energy savings associated with thermal storage and frequency regulation.</p> <p>See Sandia National Laboratory website at http://www.sandia.gov/ess/ for information on the contributions of energy storage to electric grid stability.</p> <p>For a detailed description of frequency regulation in North America see Department of Energy / National Energy Technology Laboratory Report Frequency Instability Problems in North American Interconnections, DOE/NETL-</p>

	2011/1473, Final Report dated May 1, 2011 found at http://www.netl.doe.gov/energy/analyses/pubs/TransmissionFreqProb.pdf
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 705.1	
Submitter:	Wayne Stoppelmoor
Requested Action:	Revise as follows:
Proposed Change:	<p>705.1 Energy consumption control. A whole-building or whole-dwelling unit device <u>or system</u> is installed that controls or monitors energy consumption.</p> <p>(1) programmable communicating thermostat <u>having the capability to be controlled remotely</u></p> <p>(2) energy-monitoring device <u>or system</u></p> <p>(3) energy management control system</p> <p>(4) <u>programmable thermostat having control capability based on occupant presence or usage pattern</u></p>
Substantiating Documents:	No
Reason:	<p>1) It is not clear from the existing language in item (1) that the thermostat is required to be controlled remotely. Having a thermostat that only communicates does not necessarily reduce energy consumption. For energy reduction, It is import for the thermostat to be controlled remotely.</p> <p>2) Systems should not be excluded from utilization to satisfy the requirement. In many cases, the requirement cannot be satisfied without the use of a system.</p> <p>3) Item 4 was added because implementation of these types of technologies will provide additional energy reduction.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD 705.1 Energy Consumption Control	
Submitter:	Wayne Stoppelmoor, Schneider Electric
Requested Action:	Revise as follows:
Proposed Change:	<p>705.1 Energy consumption control. A whole-building or whole-dwelling unit device is installed that controls or monitors energy consumption.</p> <p>(3) Programmable communicating thermostat</p> <p>(4) Energy monitoring device</p> <p>(5) <u>Lighting control system</u></p>

	(6) Energy management control system
Substantiating Documents:	No
Reason:	A whole-home lighting control system reduces energy consumption by allowing home owners the ability control (turn OFF or ON or to a specific light level in between ON and OFF) and/or monitor all the lighting from one location or from a remote location. These lighting control system allow for both automatic control of the lighting (e.g. lighting turned OFF at certain times of the day or night) and manual control of the lighting. Some also control temperature, window shades, or other home systems. Many high-performance green homes have them installed.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TBD	705.5
Submitter:	Amber Wood	
Requested Action:	Revise as follows:	
Proposed Change:	<p>705.5 Additional renewable energy options. Renewable energy system(s) is installed on the property (e.g., solar photovoltaic panels, building integrated photovoltaic system, wind energy system, on-site micro-hydro power system, active solar space heating system, solar thermal hydronic heating system, photovoltaic hybrid heating system).</p> <p>(Points awarded per 100 W of system rating per 2,000 square feet of total conditioned floor area of the building.)</p> <p><u>Multi-unit note: total conditioned floor area can eliminate conditioned common area</u></p>	
Substantiating Documents:	No	
Reason:	Allowance made for limited roof space for MF buildings.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TBD	Section 705.7
Submitter:	Craig Conner	
Requested Action:	Add new text as follows:	
Proposed Change:	<u>705.7 Controls for conditioned air, IAQ and heated water. Controls are provided that deliver</u>	

	<u>conditioned air, IAQ services, humidity control, ventilation air and/or service water heating more efficiently.</u>
Substantiating Documents:	No
Reason:	As the thermal shell and equipment get more efficient, the remaining efficiency will be found in control systems for energy using devices and in the distribution systems for air and water. This would recognize innovative devices or designs that have more efficient controls. For example, it might include systems that control when “fresh air” is added to the home so that it was only added when really needed, that are smarter about when to modify indoor humidity, more efficiently distribute conditioned air, or limit the energy and water wasted in hot water delivery.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TBD		705.7 Vampiric load control
Submitter:	Wayne Stoppelmoor, Schneider Electric	
Requested Action:	Revise as follows:	
Proposed Change:	<u>705.7 Vampire load control. At least 25% of the receptacles in the home shall be controlled with an automatic control device. Controlled receptacles shall be marked to differentiate them from uncontrolled receptacles.</u>	
Substantiating Documents:	No	
Reason:	<p>Plug loads are one of the largest and fastest growing energy end uses in residential and commercial spaces. Vampiric load is electric power consumed by electronic appliances while they are switched off or in a standby mode.</p> <ul style="list-style-type: none"> • 13% of total residential electric demand is standby load. (PIER CEC-500-2008-035) • Microwave uses more energy in 24 hour period for standby than it does for cooking. (Plug load resi controls presentation from Energy Solution for CA IOU Stakeholder meeting June 1, 2011) • Residential standby load in CA requires four 500 MW power plants. (Plug load resi controls presentation from Energy Solution for CA IOU Stakeholder meeting June 1, 2011) • A TV with a remote, for example, can use more energy during the 20 hours it is turned off than it does the four hours you watch it. (source: ConEdison Power of Green Poster) <p>Receptacle control helps manage these vampiric loads by turning off the power to certain appliances when we don't need them.</p> <p>Additional info and studies are here: http://www.efficientproducts.org/product.php?productID=11</p>	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		

TG Vote:	
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Proposal ID: TBD	LogID: TDB	705.7
Submitter:	Wayne Stoppelmoor and Steve Rosenstock	
Requested Action:	Add new text as follows:	
Proposed Change:	<u>705.7 Electrical Vehicle Charging Station.</u> A Level 2 (208-240 Volt) electric vehicle charging station is installed on the building site. <u>Points 1</u>	
Substantiating Documents:	No	
Reason:	This proposal will promote the usage of green energy in the transportation sector. Electric vehicles reduce the amount of energy used for transportation and do not create vehicle tailpipe emissions. The following is a link to a 2007 EPRI/NRDC report on the impact of the use of electric vehicles: http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?productId=000000000001015325	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TDB	705.7
Submitter:	Wayne Stoppelmoor	
Requested Action:	Add new text as follows:	
Proposed Change:	<u>705.7 Automatic demand response.</u> Automatic demand response system is installed that curtails energy usage upon a signal from the utility. <u>Points: 2</u>	
Substantiating Documents:	No	
Reason:	Demand response programs and systems reduce peak demand thereby reducing utilities' need to consume greater amounts of natural resources and emit greater amounts of carbon into the atmosphere.	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID: TBD	LogID: TDB	Appendix C Table C200
Submitter:	Howard Wiig, Craig Conner	
Requested Action:	Add new text as follows:	
Proposed Change:	Revise Table C200 as follows: TABLE C200	

CLIMATE ZONES, MOISTURE REGIMES, AND WARM-HUMID DESIGNATIONS BY STATE, COUNTY AND TERRITORY

Key: A – Moist, B – Dry, C – Marine, T – Tropical (subset of Zone 1)
Absence of moisture designation indicates moisture regime is irrelevant.
Asterisk (*) indicates a warm-humid location.

COLORADO

5B Broomfield

HAWAII

~~1A~~ T (all)*

TEXAS:

2B Bandera*

2B Dimmit*

2B Edwards*

2B Frio*

2B Kinney*

2B La Salle*

2B Maverick*

2B Medina*

2B Real*

2B Ulvalde*

2B Val Verde*

2B Webb*

2B Zapata*

2B Zavala*

US TERRITORIES

AMERICAN SAMOA

~~1A~~ T (all)*

GUAM

~~1A~~ T (all)*

NORTHERN MARIANA ISLANDS

~~1A~~ T (all)*

PUERTO RICO

~~1A~~ T (all)*

VIRGIN ISLANDS

~~1A~~ T (all)*

Substantiating Documents:

No

Reason:	<p>Add the new Tropical Zone, a subset of Zone 1, to the climate zone table. This is the same zone that was added in the 2015 IECC. Having a named “Tropical Zone” will make it easier to assign appropriate points to the tropical climate.</p> <p>This also updates ICC 700 climate zones for consistency with other climate zones changes in the 2015 IECC. The are a change in “warm humid” in Texas and a forgotten county in Colorado.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TDB	New Appendix
Submitter:	Craig Conner	
Requested Action:	Add new text as follows:	
Proposed Change:	<p>Add a section or an appendix that is intended to translate values or level from efficiency programs into NGBS points. Include multiple programs. For HERS this would probably be a set of tables specific to the factors that give rise to the wide variation in HERS scores that don’t seem to correlate with IECC compliance. These would probably include house size, HVAC type/efficiency, and perhaps one more variable.</p> <p>The tables would include other non-HERS programs as well. Some of the programs might translate into a specific number of points. For example the EFL (Engineered for Life) program by Masco has a specific set of requirements to all its homes. This would be a single NGBS number of points. Unlike HERS, EFL is not intended to apply to all homes.</p>	
Substantiating Documents:	No	
Reason:	<p>Multiple programs and organizations need to be able to easily use NGBS. With restrictions, HERS, other programs with several levels, and programs with a single set of requirements could be accommodated.</p> <p>It is very important not to restrict the NGBS to one proprietary source (RESNET) but allow any organization and programs to use NGBS. HERS represents one energy-based program. We need to accommodate other programs, including those that are broadly green programs.</p> <p>Analysis by EPA and recently PNNL, a DOE lab, show that there is wide variation in the correlation of HERS score and how they relate to the IECC. Simply put, the HERS score is not a good indicator of compliance with the IECC. This section would place limits on how the HERS score is used and allow it, with restrictions, to be used to get NGBS points. It would also allow other programs to do the same.</p> <p>The EPA analysis and the PNNL study will be forwarded as substantiating documents.</p>	
TG Recommendation:		
TG Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Additional TG-6 Proposed Changes

Proposal ID: TBD LogID: TG6-02 Section 505.6 – Electric Vehicle Charging	
Submitter:	Susie Maglich
Requested Action:	Add new text as follows:
Proposed Change:	<u>505.6 – Multi-Unit Plug-In Electric Vehicle Charging. Plug-in electric vehicle charging capability is provided for 5% of parking stalls. Electrical capacity in main electric panels supports Level 2 charging (208/240V-40 amp). Each stall is provided with conduit and wiring infrastructure from the electric panel to support Level 2 charging (208/240V-40 amp) service to the designated stalls, and stalls are equipped with either Level 2 charging AC grounded outlets (208/240V-40 amp) or Level 2 charging stations (240V/40A) by a third party charging station.</u>
Substantiating Documents:	No
Reason:	<p>Electric car charging requirements are emerging in building code requirements affecting multi-unit development. Electric vehicles are becoming more prevalent in today’s market and the industry is starting to see demand for charging capabilities from multi-unit residents owning electric vehicles. Although several jurisdictions have adopted code language to require electric vehicle charging, the proposed language is intended as a non-mandatory provision and instead creates an incentive for multi-unit projects to invest in this emerging technology. This language is based on California’s CalGreen building code and the City of Los Angeles building code requirements. The proposal also provides property owners and builders with flexibility as to how vehicle charging is managed by allowing either hard wired outlets or third party charging stations.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG6-01 601.1-Conditioned floor area	
Submitter:	Miles Haber
Requested Action:	Add new text as follows:
Proposed Change:	<p>601.1- Conditioned floor area. Finished floor area of a dwelling unit is limited. Finished floor area is calculated in accordance with NAHBRC Z765 <u>for single family</u> and <u>ANSI/BOMA Z65.4 for multi-unit buildings</u>. Only the finished floor area for stories above grade plane is included in the calculation.</p> <ol style="list-style-type: none"> (1) <u>less than or equal to 700 square feet (65 m2)</u> (2) less than or equal to 1000 square feet (93 m2) (3) less than or equal to 1500 square feet (139 m2) (4) less than or equal to 2000 square feet (186 m2) (5) less than or equal to 2500 square feet (232 m2) (6) greater than 4000 square feet (372 m2)
Substantiating Documents:	No

Reason:	The proposed change adds the proper standard for measurement of multi-unit buildings. It also recognizes the benefits of additional reductions in dwelling unit size. The inclusion of a lower square footage tier encourages building designs that can maximize resource and materials savings, as well as, energy savings.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG6-06 703.6.1 Sun-tempered design	
Submitter:	Katrina Rosa, The EcoLogic Studio
Requested Action:	Add new text as follows:
Proposed Change:	<p><u>Multi-unit Building Note:</u> <u>Design the site such at least 40% of the multi-unit dwelling units have one wall, with at least 50% of glazing for each unit, that faces south (within 15 degrees of south). Effective shading is required for passive solar control on all south facing glazing. The floor area of at least 15 feet from the south facing perimeter glazing is massive and exposed to capture solar heat during the day and reradiated at night.</u></p>
Substantiating Documents:	No
Reason:	Current language is not fully applicable to multi-unit buildings. Note: definitions are recommended for “massive” and “exposed” and “effective shading.”
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD LogID: TG6-03 704.2.1 Occupancy Sensors	
Submitter:	Shaun Taylor, Lutron Electronics
Requested Action:	Revise as follows:
Proposed Change:	<p>704.2.1 Occupancy Sensors.</p> <p>(1) Occupancy sensors are installed on indoor lights, and photo or motion sensors are installed on outdoor lights to control lighting.</p> <p style="padding-left: 40px;">(a)(1) 25 percent of lighting (b)(2) 50 percent of lighting</p> <p>(2) <u>In a multi-unit building, occupancy controls are installed to automatically reduce light levels in interior corridors and exit stairwells when the space is unoccupied. Light levels are reduced by:</u></p>

	<p><u>(a) A minimum of 50 percent or to local minimum requirements</u></p> <p><u>(b) A minimum of 75 percent or to local minimum requirements</u></p>
Substantiating Documents:	No
Reason:	Most corridor and exit stairwell lights in multifamily housing stay on 24 hours a day whether a space is occupied or not. Substantial energy savings may be achieved by reducing light levels in these areas when not in use. Although many of these areas must remain lighted 24 hours a day in order to meet life safety codes, safety requirements can be nonetheless be fulfilled, while reducing light levels and achieving as much as a 90 percent reduction in energy use relative to full-on lighting.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TG6-05	704.2.1 Occupancy Sensors
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Submitter:	Shaun Taylor, Lutron Electronics
Requested Action:	Revise as follows:
Proposed Change:	<p>Occupancy/<u>Vacancy</u> Sensors. <u>Occupancy or vacancy</u> sensors are installed on indoor lights, and photo or motion sensors are installed on outdoor lights to control lighting.</p> <p><u>Multi-unit building note:</u> <u>Occupancy sensors or vacancy sensors are installed on interior lighting.</u></p> <ol style="list-style-type: none"> 1. <u>Occupancy or vacancy sensors are installed in dwelling units:</u> <ol style="list-style-type: none"> (7) <u>25 percent of lighting</u> (8) <u>50 percent of lighting.</u> 2. <u>Vacancy sensors are installed in multi-unit common areas:</u> <p><u>EXCLUSION: Corridors and stairwells.</u></p> <ol style="list-style-type: none"> (1) <u>50 percent of lighting</u> (2) <u>75 percent of lighting</u> (3) <u>100 percent of lighting</u>

	<p>Recommended Definitions:</p> <p><u>OCCUPANCY SENSOR. Devices that generally use passive infrared and/or ultrasonic technology or a combination of multiple sensing technologies to automatically turn lights on and off or from one preset light level to another based on whether or not the sensor detects that a space is occupied.</u></p> <p><u>VACANCY SENSOR. Devices that generally use passive infrared and/or ultrasonic technology or a combination of multiple sensing technologies to determine if a space is occupied. If a space is unoccupied, the device will automatically turn the lights off, but the device does not automatically turn lights on.</u></p>
Substantiating Documents:	No
Reason:	<p>Vacancy sensors may save more energy than occupancy sensors because they do not automatically turn lights on. This proposal gives flexibility to homeowners who may want their lights to come on automatically. For common areas, lights will need to be manually turned on but will automatically turn off when a space is vacant.</p> <p>Multifamily corridors and exit stairwells are excluded because there is a separate proposal that allows light level reduction instead of turning the lights off that enables corridors and stairwells to meet life safety codes.</p>
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID: TBD	LogID: TG6-04	704.2.X Exterior Lighting Controls
Submitter:	Shaun Taylor, Lutron Electronics	
Requested Action:	Add new text as follows:	
Proposed Change:	<p><u>Automatic daylight controls or time clocks are installed for multi-unit exterior lighting.</u></p> <p><u>(1) 50 percent of lighting load</u></p> <p><u>(2) 75 percent of lighting load</u></p> <p><u>(3) 100 percent of lighting load</u></p> <p><u>Exceptions:</u></p> <p><u>(1) Solar photovoltaic exterior lights</u></p> <p><u>(2) Lighting required to comply with local egress and life safety code requirements.</u></p> <p>Recommended Definition:</p> <p><u>DAYLIGHT CONTROL. A device or system that provides automatic control of electric light levels based on the amount of daylight.</u></p>	

Substantiating Documents:	No
Reason:	Daylight controls are effective energy management tools that prevent energy waste where exterior lights are left on during daylight hours. This can be done using controls such as photo sensors or a time clock. The proposal is crafted to specifically address multi-unit buildings. While we feel the concept is generalizable to all residential building types, the multifamily task group is deferring to the energy task group for their consideration. This recognizes that the use of these control devices may be different in multifamily and single-family buildings. For example, the percentage tiers are necessary in the multi-unit context because of the large number of devices that may be required in an apartment project, while a single-family home may only require two or three devices.
TG Recommendation:	
TG Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Additional TG-7 Proposed Changes – Coming Soon