

Proposed Changes

April 12, 2017

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TG-4: Water Efficiency, Operation & Owner Education

Chapter 8: Water Efficiency

Proposal ID TBD	LogID 6483	801.0 Intent (Indoor and Outdoor Water Use)
Submitter:	Michael Cudahy, PPFA	
Requested Action:	Add new as follows	
Proposed Change:	801.0 Intent. Measures that reduce indoor and outdoor water usage are implemented, <u>measures that include collection and use of alternative sources of water are implemented, and measures that treat water on site are implemented.</u>	
Reason:	Chapter 8 includes saving potable water through a number of items encouraging water efficiency, but also a number; 801.7, 802.1, 802.2 on alternate water collection/usage and several on site water treatment; 802.4, 802.6. The intent should reflect the full content of the chapter.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6367	801.3 Showerheads
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	(1) The total maximum combined flow rate of all showerheads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5 gpm. Maximum of two valves are installed per shower compartment. The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. <u>Showerheads shall comply with ASMEA112.18.1/CSA B125.1.</u> Showerheads are served by an automatic compensating valve that complies with ASSE 1016/ ASMEA112.1016/CSA B125.16 or ASME A112.18.1/ <u>CSA B125.1</u> and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead.	
Reason:	The language needs to be updated to reflect the harmonized standards. Including the pressure values is repetitive because they are included in the product standard requirements.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6372	801.4.1 Water-efficient (Lavatory faucets)
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	801.4.1 <u>Install</u> water efficient lavatory faucets with a maximum flow rate of 1.5 gpm (5.68 L/m) at 60 psi (414 kPa) in accordance compliance with ASME A112.18.1/CSAB125.1, and certified to the performance criteria of the U.S. EPA WaterSense High-Efficiency Lavatory Faucet Specification are installed:	
Reason:	The ASME and CSA standards are harmonized standards. They are recognized in the industry as ASME A112.18.1/CSA B125.1 and should be referenced as such. The EPA Water Sense program is a well-recognized program and products carrying a WaterSense label demonstrate that they not only save water, but they have been third-party certified to meet performance criteria. This allows consumers to	

	easily identify water-efficient products that also perform. This program has widespread support and there are over 12,000 bathroom faucets/accessories currently labeled with WaterSense.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6380	801.5 Water closets and urinals
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	801.5 (4)(c) One or more composting or waterless toilets and/or <u>nonwater urinals</u> . <u>Nonwater urinals shall be in tested in accordance with ASME A112.19.19/B45.1.</u>	
Reason:	Waterless urinal is a proprietary name and should not be referenced. Because other standards have been referenced throughout the document, the nonwater urinal standard should also be referenced here	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6378	801.5 Water closets and urinals
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	801.5 (4)(b) One or more urinals with a flush volume of 0.5gallons (1.9L) or less when tested in accordance with ASME A112.19.2/ <u>CSAB45.1</u> .	
Reason:	Update the referenced standard to the correct name.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6377	801.5 Water closets and urinals
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	801.5 (2) A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less and meets the flush performance criteria when tested in accordance <u>,in compliance</u> with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable. <u>Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.</u>	
Reason:	If a product is in compliance with the product standard, it therefore meets the standard's performance criteria and stating such is repetitive. The EPA Water Sense program is a well-recognized program and products carrying a WaterSense label demonstrate that they not only save water, but they have been third-party certified to meet performance criteria. This allows consumers to easily identify water-efficient	

	products that also perform. This program has widespread support and there are over 2,800 tank-type toilets currently labeled with WaterSense.
TG Recommendation (AS or AM or D):	Revise as follows
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6366	801.6.1 Multi-stream rotating nozzles (Irrigation systems)
Submitter:	Brent Mecham, Irrigation Association	
Requested Action:	Revise as follows	
Proposed Change:	801.6.3 1 Sprinkler nozzles have a maximum precipitation rate of 1.20 inches per hour for turf or landscaping. shall be tested according to ANSI standard ASABE/ICC 802-2014 Landscape Irrigation Sprinkler and Emitter Standard. Nozzle performance is tested by an accredited third party laboratory and results are published on manufacturer's posted on Smart Water Application Technologies website or similar.	
Reason:	This paragraph should renumbered to follow the mandatory requirements of having a plan. Since there is now an ANSI standard for testing and reporting nozzle performance this can replace the maximum precipitation rate requirement. This practice is already being implemented in California where this standard has been adopted into the CalGreen building code and manufacturer's are complying if they are selling their products in California. Adopting this into the NGBS would be used in jurisdictions outside of California.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6354	801.6.3 Irrigation plan and implementation
Submitter:	Brent Mecham, Irrigation Association	
Requested Action:	Revise as follows	
Proposed Change:	801.6.3 1 Where an irrigation system is installed an irrigation plan.....as approved by Adopting Entity. _	
Reason:	The language of this paragraph shall remain the same, but renumber this section from 801.6.3 to be the first paragraph 801.6.1 since this is a mandatory requirement. The following paragraphs that award points should then follow that contain the provisions that are part of the irrigation plan	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6486	801.6.3 Irrigation plan and implementation
Submitter:	Steven Armstrong, ESG Energy	
Requested Action:	Revise as follows	
Proposed Change:	Remove 'WaterSense labeled program or equivalent program' as a mandatory practice.	

Reason:	Difficult to find these professionals
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6201	801.6.3 Irrigation plan and implementation
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	When an irrigation system is installed, an irrigation plan and implementation are executed by a qualified professional certified by a WaterSense labeled program or equivalent program as approved by Adopting Entity. - Mandatory 5 POINTS	
Reason:	While it makes sense for the Standard to incentivize the use of WaterSense certified professionals, there are currently not enough WaterSense professionals in most cities and regions to support this as a mandatory requirement. For example, in Dallas, TX there are zero WaterSense Irrigation System Design professionals and only one WaterSense Irrigation System Installation and Maintenance professional. Returning this to be worth 5 points as in NGBS 2012 only makes sense.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6550	801.6.3 Irrigation plan and implementation
Submitter:	Rachel Della Valle, Southern Energy Management	
Requested Action:	Revise as follows	
Proposed Change:	Where an irrigation system is installed, an irrigation plan and implementation are executed by a qualified professional certified by a WaterSense labeled program or equivalent program as approved by Adopting Entity.	
Reason:	1.) In some areas of the country WaterSense irrigation professionals cannot be found. 2.) No other trade/subcontractor have a mandatory requirement of a professional certification. I believe if a the professional certification is recognized it should be recognized in a point credit item, not a mandatory item.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6562	801.6.3 Irrigation plan and implementation
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	Mandatory <u>6 points</u>	

Reason:	Requiring WaterSense labeling, plan, and certified staff to install is impossible in many areas of the country, especially those further from large metropolitan areas, as WaterSense certified professionals are simply not available nor within any range to install or implement materials. Thus, also cost-prohibitive or simply impossible. Additionally, no equivalent program currently exists. Suggest removing Mandatory and instead leave measure, but suggest with 6 points awarded vs. Mandatory.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6549	801.8 Sediment filters
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Submitter:	Craig Conner, Building Quality										
Requested Action:	Add new as follows										
Proposed Change:	<p><u>801.9 Alternative water compliance.</u> <u>Compliance with this chapter based on the WERS computed as in Appendix F is as shown in Table 801.9.</u></p> <table border="1"> <tr> <td>WERS Level</td> <td>Points (from NGBS)</td> </tr> <tr> <td>80 Bronze</td> <td>25</td> </tr> <tr> <td>70 Silver</td> <td>39</td> </tr> <tr> <td>60 Gold</td> <td>67</td> </tr> <tr> <td>50 Emerald</td> <td>92</td> </tr> </table> <p><u>Appendix F</u> This appendix is part of the standard. The WERS calculation shall be in accordance with this appendix.</p> <p>INDOORUSE Indoor Calculations</p> <p>Variables:</p> <ol style="list-style-type: none"> $T_{(x)}$- toilet use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline $[(FF_{(t)}*QTI)*(OCC*UF_{(t)})]$ $S_{(x)}$- shower use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline $[(FF_{(s)}*QTI)*(DF_{(s)}*RF)*(OCC*UF_{(s)})]$ $B_{(x)}$- bathtub use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline $[(FF_{(b)}*QTI)*(OCC*UF_{(b)})]$ $L_{(x)}$-lavatory use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline $[(FF_{(L)}*QTI)*DF_{(L)}*(OCC*UF_{(L)})]$ $F_{(x)}$-kitchen faucet use in gpd with sub x corresponding to (a) actual/proposed or (e) baseline $[(FF_{(f)}*QTI)*DF_{(f)}*(OCC*UF_{(f)})]$ $D_{(x)}$- dishwasher use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline $[(FF_{(d)}*QTI)*(OCC*UF_{(d)})]$ $CW_{(x)}$- clothes washer use in gpd with sub x corresponding to (a) actual/proposed or (e) baseline $[(FF_{(cw)}*QTI)*(OCC*UF_{(cw)})*CF_{(cw)}]$ $SW_{(x)}$- structural waste in gpd with sub x corresponding to (a) actual/proposed or (e) baseline $[(VOL*QTI)*(OCC*UF_{(sw)})]$ $WF_{(x)}$- other water fixture use in gpd with sub x corresponding to (a)actual/proposed or (e) baseline $[(FF_{(wfi)}*QTI)]$ Reuse_(a)- sub x corresponding to (a) actual/proposed or (e) baseline of WERS_CAPTURE_INDOOR_USE VOL - Calculated water volume in DHW pipe supplying the furthest fixture worst case scenario. This factor is replaced with the actual field measured volume for a verified rating. <p>Factors & Multipliers</p> <ol style="list-style-type: none"> $CF_{(x)}$- Cubic feet with sub x corresponding to the specific water using item $DF_{(x)}$- Duration Factor with sub x corresponding to the specific water using item $FF_{(x)}$- Fixture Factor with sub x corresponding to the specific water using item OCC - Occupancy Factor QTI - Quantity multiplier inclusion 	WERS Level	Points (from NGBS)	80 Bronze	25	70 Silver	39	60 Gold	67	50 Emerald	92
WERS Level	Points (from NGBS)										
80 Bronze	25										
70 Silver	39										
60 Gold	67										
50 Emerald	92										

- f. RF - reduction factor
- g. $UF_{(x)}$ - Use Factor with sub x corresponding to the specific water using item

Indoor Use Calculation:

$$WERS_INDOOR_USE_{(a)} \text{ (gpd)} = [T_{(a)} + S_{(a)} + B_{(a)} + L_{(a)} + F_{(a)} + D_{(a)} + CW_{(a)} + SW_{(a)} + WF_{(a)}] - \text{Reuse}_{(a)}$$

$$WERS_INDOOR_BASELINE_{(e)} \text{ (gpd)} = [T_{(e)} + S_{(e)} + B_{(e)} + L_{(e)} + F_{(e)} + D_{(e)} + CW_{(e)} + SW_{(e)} + WF_{(e)}]$$

CAPTURE AND USAGE

Reuse Calculations

Variables:

- a. $RSF_{(x)}$ - Rainwater Square feet with sub x corresponding to the specific capture sf for rainwater with (r) roof or (s) site
- b. $SS_{(x)}$ - Site surface texture with sub x corresponding to (a) actual/proposed or (e) baseline
- c. $RS_{(x)}$ - Roof surface texture with sub x corresponding to (a) actual/proposed or (e) baseline
- d. $RC_{(x)}$ - Rainwater capture in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[(RSF_{(r)} * CU_r * RS_{(x)}) + (RSF_{(s)} * CU_r * SS_{(x)})]$
- e. $GC_{(x)}$ - Greywater capture in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[(S_{(x)} * UF_{(s)} * cUF_{(s)}) + (B_{(x)} * UF_{(b)} * cUF_{(b)}) + (L_{(x)} * UF_{(L)} * cUF_{(L)}) + (CW_{(x)} * UF_{(CW)} * cUF_{(CW)})]$
- f. $BC_{(x)}$ - Blackwater capture in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[(T_{(x)} * UF_{(t)} * cUF_{(t)}) + (F_{(x)} * UF_{(f)} * cUF_{(f)})]$
- g. $RT_{(x)}$ - Rainwater tank sizing with sub x corresponding to (a) actual/proposed or (e) baseline $[Cs_{(r)} * (RU_i + RU_o) * TSF_{(r)}]$
- h. $GT_{(x)}$ - Greywater tank sizing with sub x corresponding to (a) actual/proposed or (e) baseline $[Cs_{(g)} * (GU_i + GU_o) * TSF_{(g)}]$
- i. $BT_{(x)}$ - Blackwater tank sizing with sub x corresponding to (a) actual/proposed or (e) baseline $[Cs_{(bw)} * (BU_i + BU_o) * TSF_{(bw)}]$
- j. $RU_i_{(x)}$ - Rainwater usage INDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[(S_{(x)} * UF_{(s)} * cUF_{(s)}) + (B_{(x)} * UF_{(b)} * cUF_{(b)}) + (L_{(x)} * UF_{(L)} * cUF_{(L)}) + (CW_{(x)} * UF_{(CW)} * cUF_{(CW)}) + (T_{(x)} * UF_{(t)} * cUF_{(t)}) + (F_{(x)} * UF_{(f)} * cUF_{(f)}) + (D_{(x)} * UF_{(d)} * cUF_{(d)})]$
- k. $GU_i_{(x)}$ - Greywater usage INDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[(S_{(x)} * UF_{(s)} * cUF_{(s)}) + (B_{(x)} * UF_{(b)} * cUF_{(b)}) + (L_{(x)} * UF_{(L)} * cUF_{(L)}) + (CW_{(x)} * UF_{(CW)} * cUF_{(CW)}) + (T_{(x)} * UF_{(t)} * cUF_{(t)}) + (F_{(x)} * UF_{(f)} * cUF_{(f)}) + (D_{(x)} * UF_{(d)} * cUF_{(d)})]$
- l. $BU_i_{(x)}$ - Blackwater usage INDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [FUTURE]
- m. $RU_o_{(x)}$ - Rainwater usage OUTDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[RR_{(x)} - ((OUTRirr_{(x)} * cUF_{(OUTRirr)}) + (OUTRdi_{(x)} * cUF_{(OUTRdi)}))]$
- n. $GU_o_{(x)}$ - Greywater usage OUTDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[GR_{(x)} - (OUTGirr_{(x)} * cUF_{(OUTGirr)}) + (OUTGdi_{(x)} * cUF_{(OUTGdi)})]$
- o. $BU_o_{(x)}$ - Blackwater usage OUTDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline $[BR_{(x)} - (OUTBdi_{(x)} * cUF_{(OUTBdi)})]$
- p. $RR_{(x)}$ - Rainwater remaining/available for outdoor usage in gpmth with sub x corresponding to (a) actual/proposed or (e) $[(RC - RU_i)]$
- q. $GR_{(x)}$ - Greywater remaining/available for outdoor usage in gpmth with sub x corresponding to (a) actual/proposed or (e) $[(GC - GU_i)]$
- r. $BR_{(x)}$ - Blackwater remaining/available for outdoor usage in gpmth with sub x corresponding to (a) actual/proposed or (e) [FUTURE]
- s. $T_{(x)}$ - toilet use in gpd from the indoor water use calculations
- t. $S_{(x)}$ - shower use in gpd from the indoor water use calculations
- u. $B_{(x)}$ - bathtub use in gpd from the indoor water use calculations
- v. $L_{(x)}$ -lavatory use in gpd from the indoor water use calculations
- w. $F_{(x)}$ -kitchen faucet use in gpd from the indoor water use calculations
- x. $CW_{(x)}$ - clothes washer use in gpd from the indoor water use calculations
- y. $OUTRirr_{(x)}$ - Rainwater outdoor use as surface irrigation
- z. $OUTRdi_{(x)}$ - Rainwater outdoor use as sub-surface irrigation

- aa. OUTGirr_(x) - Greywater outdoor use as surface irrigation
- bb. OUTGdi_(x) - Greywater outdoor use as sub-surface irrigation
- cc. OUTBdi_(x) - Blackwater outdoor use as sub-surface irrigation

Factors & Multipliers

- a. CU_(x) - Conversion unit for 1" of rainfall volume in one square foot of area
- b. QTu - Quantity multiplier for use / inclusion
- c. TSF_(x) - Tank safety factor with sub x corresponding to (r) rainwater or (g) greywater or (bw) blackwater
- d. UF_(x) - Use Factor with sub x corresponding to the specific water using item from the indoor water calculations
- e. CUF_(x) - Capture Use Factor with sub x corresponding to the specific water using item
- f. Cs_(x) - Capture Systems (qualified) with sub x corresponding to (r) rainwater or (g) greywater or (bw) blackwater

Capture Calculations:

$$WERS_CAPTURE_INDOOR_USE = [(((RUi_{(x)} + GUI_{(x)} + BUi_{(x)}) * 12) / 365)]$$

$$WERS_CAPTURE_OUTDOOR_USE = [(RUo_{(x)} + GUo_{(x)} + BUo_{(x)})]$$

The above calculations are limited by the final tank size and qualified capture system for each type of alternative water source system.

EXTERIOR USE

Outdoor Calculations

Variables:

- a. MAX_ALLOW_LANDSCAPING_(x) - in area with sub x corresponding to (a) actual/proposed or (e) baseline
- b. MEM_(x) - Maximum ETo Monthly with sub x corresponding to month
- c. OUTReuse_(a) - sub x corresponding to (a) actual/proposed or (e) baseline of WERS_CAPTURE_OUTDOOR_USE
- d. ZSF_(x) - zone square footage area with sub x corresponding to (a) actual/proposed or (e) baseline
- e. UF_(x) - Use Factor with sub x corresponding to (a) actual/proposed or (e) baseline
- f. LWR_(x) - Landscape watering requirement with sub x corresponding to the line item entry

$$LWR_{(x)} = \{ [(1/IF_{(a)}) * ((MEM_{(jan)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(feb)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(mar)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(apr)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(may)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(jun)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(jul)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(aug)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(sep)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(oct)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(nov)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] + [(1/IF_{(a)}) * ((MEM_{(dec)} * WD) - ARF_{(a)}) * ZSF_{(a)} * CU_{(a)} * UF_{(a)}] \}$$

Factors & Multipliers

- a. CU_(x) - Conversion unit with sub x corresponding to (a) actual/proposed or (e) baseline
- b. IF_(x) - irrigation factor with sub x corresponding to (a) actual/proposed or (e) baseline
- c. WD_(x) - water demand with sub x corresponding to (a) actual/proposed or (e) baseline
- d. QTm - Quantity multiplier for month
- e. ARF_(x) - Average Reduction Factor with sub x corresponding to (a) actual/proposed or (e) baseline

Indoor Use Calculation:

$$WERS_OUTDOOR_USE_{(gpy)} = [n = 150 LWR_{(n)}] - OUTReuse_{(a)}$$

$$WERS_OUTDOOR_BASELINE_{(gpy)} = [(MEM_{(jan)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(feb)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(mar)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(apr)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(may)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(jun)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(jul)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(aug)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(sep)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(oct)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(nov)} * MAX_ALLOW_LANDSCAPING * QTm * CU) + (MEM_{(dec)} * MAX_ALLOW_LANDSCAPING * QTm * CU)]$$

	<p>WERSREPORT Water Efficiency Rating Score Calculations</p> <p>Variables: a. none</p> <p>Factors & Multipliers a. QTy - Quantity multiplier for year</p> <p>Calculation:</p> $\text{WERS} = \left[\frac{((\text{WERS_INDOOR_USE}_{(gpd)} * \text{QTy}) + \text{WERS_OUTDOOR_USE}_{(gpy)})}{((\text{WERS_INDOOR_BASELINE}_{(gpd)} * \text{QTy}) + \text{WERS_OUTDOOR_BASELINE}_{(gpy)})} \right] * 100$
Reason:	<p>This change proposes an option for meeting the water requirements in the NGBS. Water is a critical element of a green program. We would like the WERS methodology to be in the NGBS and to expose the methodology to the discussion that is inherent in the NGBS development process. Over time, it became clear to us that a method of comparing and promoting water efficiency was needed. This proposal takes advantage of 3 years of dedicated work from a core group of 9 individuals from diverse backgrounds. The Water Efficiency Rating Score (WERS®), the homebuilding industry's first performance-based water efficiency program, is being used in the marketplace. WERS® is a water use modeling tool which creates a score between zero and 100, with a lower score indicating greater efficiency. It takes into account indoor and outdoor water usage, including rainwater, stormwater, greywater and blackwater. This metric allows for the comparison of properties, similar to an energy rating. It also projects the property's daily, monthly and yearly water usage and water costs. Water is one of the greatest limiting factors to growth in the West. In its most extreme form, such as Whatcom County, WA, permits have recently been denied due to uncertain water supply for new development. The Santa Fe Area Home Builders Association foresaw this potential threat over 3 years ago, and set out to create a water rating system that would retain design flexibility and freedom of product choice, while still driving down overall water usage. The WERS® Program is a water efficiency tool that jurisdictions can use, and are already using. In the words of Christine Chavez, Water Conservation Manager for the City of Santa Fe, "The WERS® Program provides another tool to assist the City of Santa Fe Water Conservation Office to meet our goal of managing and reducing customer demands to protect natural resources and to ensure that we can provide the community with a safe, reliable and sustainable water supply." The WERS® Program is also cited as a water efficiency compliance path for the State of New Mexico's Sustainable Building Tax Credit. Add ref to NAHB policy As our discussions on water have reached national levels, we have seen common elements in the water issues across the country. Adding another option to NGBS would strengthen NGBS and allow this tool to see much broader use. Add proponents as follow: Kim Shanahan - Santa Fe Area Home Builders Association Laureen Blissard - LTLB Envirotecure</p>
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 1512	802.4 Engineered biological system or intensive bioremediation system
Submitter:	Jennifer Cisneros, Bio-Microbics, Inc.	
Requested Action:		
Proposed Change:		
Reason:	<p>What/why is the difference between these two sections: 802.4 Engineered biological or intensive bioremediation system. An engineered biological system or intensive bioremediation system is installed and the treated water is used on site. Design and implementation are approved by appropriate regional authority. 802.6 Advanced wastewater treatment system. Advanced wastewater (aerobic) treatment system is installed and treated water is used on site. And, what was the reason to put "a Humidifier" description (802.5 Recirculating humidifier) between these two sections? Seems like an odd place and confusing.</p>	
TG Recommendation (AS or AM or D):		

Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6200	Other for Chapter 8 (include section number and title below)
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION 801.4.3 Water-efficient kitchen faucets with a maximum flow rate of 1.5 gpm (5.68 L/m), tested as 60 psi (414 kPa) in accordance with ASME A112.18.1, are installed. - 3 POINTS	
Reason:	Whether kitchen faucets are being used for washing hands or washing dishes, reducing the amount of water used during that activity is as beneficial here as it is in the lavatory.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6289	Other for Chapter 8 (include section number and title below)																																																						
Submitter:	Aaron Gary, US-EcoLogic																																																							
Requested Action:	Add new as follows																																																							
Proposed Change:	<p>802.1 Water Reduction Calculation. The water efficiency rating level shall be based on the reduction in water consumption over standard practice in accordance with Table 802.1.1</p> <p>Table 802.1.1 Water Rating Level Thresholds</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="4">Rating Level</th> </tr> <tr> <th>BRONZE</th> <th>SILVER</th> <th>GOLD</th> <th>EMERALD</th> </tr> </thead> <tbody> <tr> <td>Reduction in water consumption</td> <td>10%</td> <td>20%</td> <td>30%</td> <td>40%</td> </tr> </tbody> </table> <p>Outdoor water use reduction shall be calculated by using the EPA WaterSense Water Budget Tool.</p> <p>Indoor water use reduction shall be calculated using the Water Reduction Calculator to determine the average flush or flow rate for each fixture type and the estimated daily usage. The baselines for indoor water consumption are shown in Table 802.1.2.</p> <p>Table 802.1.2. Indoor water baseline consumption (per person per day)</p> <table border="1"> <thead> <tr> <th rowspan="2">Fixture</th> <th colspan="2">Baseline flush or flowrate</th> <th rowspan="2">Estimated fixture usage</th> <th colspan="2">Estimated water usage</th> </tr> <tr> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Shower (per compartment)</td> <td>2.5 gpm</td> <td>9.5 lpm</td> <td>6.15 minutes</td> <td>15.4 gallons</td> <td>58.4 liters</td> </tr> <tr> <td>Lavatory, kitchen faucet</td> <td>2.2 gpm</td> <td>8.3 lpm</td> <td>5.0 minutes</td> <td>11 gallons</td> <td>41.5 liters</td> </tr> <tr> <td>Toilet</td> <td>1.6 gpf</td> <td>6 lpf</td> <td>5.05 flushes</td> <td>8 gallons</td> <td>30.3 liters</td> </tr> <tr> <td>Clothes washer</td> <td>9.5 WF</td> <td>9.5 WF</td> <td>0.37 cycles @ 3.5 ft3 (@0.1m3)</td> <td>15.1 gallons</td> <td>57.1 liters</td> </tr> <tr> <td>Dishwasher</td> <td>6.5 gpc</td> <td>24 lpc</td> <td>0.1 cycles</td> <td>0.7 gallons</td> <td>2.4 liters</td> </tr> </tbody> </table>			Rating Level				BRONZE	SILVER	GOLD	EMERALD	Reduction in water consumption	10%	20%	30%	40%	Fixture	Baseline flush or flowrate		Estimated fixture usage	Estimated water usage						Shower (per compartment)	2.5 gpm	9.5 lpm	6.15 minutes	15.4 gallons	58.4 liters	Lavatory, kitchen faucet	2.2 gpm	8.3 lpm	5.0 minutes	11 gallons	41.5 liters	Toilet	1.6 gpf	6 lpf	5.05 flushes	8 gallons	30.3 liters	Clothes washer	9.5 WF	9.5 WF	0.37 cycles @ 3.5 ft3 (@0.1m3)	15.1 gallons	57.1 liters	Dishwasher	6.5 gpc	24 lpc	0.1 cycles	0.7 gallons	2.4 liters
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	<p><u>gpm = gallons per minute</u> <u>gpf = gallons per flush</u> <u>WF = water factor</u> <u>gpc = gallons per cycle</u> <u>lpf = liters per flush</u> <u>lpm = liters per minute</u> <u>lpc = liters per cycle</u></p> <p>802.2 Alternative compliance. Total water reduction that complies with Table 802.1.1 calculated using the WER Index shall be an acceptable alternative.</p> <p><u>RENUMBER SUBSEQUENT SECTIONS</u></p>
Reason:	Adding an alternative performance calculation methodology to water efficiency will make the Standard more flexible and support the adoption of new innovative practices that come to market between Standard development cycles.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6491	Other for Chapter 8 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 803.2 - An activated carbon filter is installed to treat all of the water intended for consumption and for showers/baths. 2</u>	
Reason:	This measure provides a higher level of assurance for consistent water quality and improves the overall quality of the water.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6488	Other for Chapter 8 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 803.1 - Water Quality Testing.</u> Meet one or more of the following options: <u>(1) Sediment level testing. 1</u> <u>(2) Microorganisms level testing. 1</u> <u>(3) Dissolved Metals level testing. 1</u> <u>(4) Organic Contaminants level testing. 1</u> <u>(5) Herbicides, Pesticides and Fertilizers level testing. 1</u> <u>(6) Public Water Additives level testing. 1</u>	
Reason:	As we have seen in Michigan and other areas around the country. Testing the quality of the water is important to protect residents from harm. Some people are not aware that they could be damaging their health by drinking public water.	

TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6492	Other for Chapter 8 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 803.3 - Water Sanitation. A UVGI water sanitation device is installed to treat all of the water intended for consumption and for showers/baths. 2</u>	
Reason:	This measure provides a higher level of assurance for consistent water quality and improves the overall quality of the water.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6353	Other for Chapter 8 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	<u>Section 803 - Add a new section as relevant for Health & Well-being credits.</u>	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6500	Other for Chapter 8 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 801.9 - Water Heater installation quality assurance - Meet all of the following:</u> <u>(1) Proper water pressure is verified per manufacturer's recommendations by the installing contractor.</u> <u>(2) Verify water supply line connections are secure.</u> <u>(3) Verify drain pan and drain line are installed when required by code.</u> <u>(4) For gas water heaters, verify the the flue vent is properly sized and installed properly.</u> <u>(5) For gas water heaters, verify the gas supply line is properly secured and has an accessible shut-off.</u> 2	

Reason:	Having an extra set of eyes to verify that the water heater was installed properly is good practice. This measure may require that the verifier familiarize themselves with proper water heater installation techniques.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6555	Other for Chapter 8 (include section number and title below)
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	802 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6568	Other for Chapter 8 (include section number and title below)
Submitter:	Craig Conner, Building Quality	
Requested Action:	Add new as follows	
Proposed Change:	Alternative water requirements. This chapter is met by using all of the following: high MEF and EF Clothes Washer decreased toilet water use water supply within 10 ft of entrance to water using rooms, max pipe diameter 1/2 inch, 3/4 for master bath outdoor plants are low water gray water use does not contribute to water budget outdoor soils are amended and loosened to allow plant roots to go deeper only low water grasses are used. Silver level water.	
Reason:	This recipe provides for minimum use of water in the new home.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Chapter 10: Operation, Maintenance, and Building Owner Education

Proposal ID TBD	LogID 6432	1001.2 Training of initial homeowners
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Training of initial homeowners. Initial homeowners are familiarized with the role of occupants in achieving green goals. Training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include... - MANDATORY 8 POINTS	
Reason:	Aligns with Measure 11.1001.2; In the development of the 2015 NGBS this measure was changed from being worth 8 point to being Mandatory. While making this mandatory is good, the loss of 8 points in Chapter 10 makes it extremely difficult for projects to achieve Gold or Emerald Certification.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6559	1001.2 Training of initial homeowners
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	(Points) Mandatory <u>8</u> points	
Reason:	Achieving required minimums of 8 points for this Chapter is not possible without inclusion of points for this mandatory measure. Previous points were removed during prior update 2012, likely inadvertently.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6232	1002.0 Intent (Construction, Operation, and Maintenance Manuals and Training for Multifamily Buildings)
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>Host an annual group event that provides opportunity for discussion / input to better the suggestions in the OMBOE manual.</u>	
Reason:	topics include recycling tips/energy / water saving tips and opens up discussion on these and related topics	
Concurrent Review Staff Note:	<i>This proposal is also being reviewed by TG-6 (Multifamily) as the proposal will affect multifamily buildings.</i>	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		

TG Vote:	
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Proposal ID TBD	LogID 1508	1002.2 Operations manual
Submitter:	Todd Jones, Center for Resource Solutions	
Requested Action:	Revise as follows	
Proposed Change:	(4) Information on opportunities to purchase <u>Green-ecertified (or equivalent)</u> renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation of on-site renewable energy systems.	
Reason:	(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6433	1002.4 Training of building owners		
Submitter:	Aaron Gary, US-EcoLogic			
Requested Action:	Revise as follows			
Proposed Change:	<table border="1" style="width: 100%;"> <tr> <td style="width: 80%; padding: 5px;"> 1002.4 Training of building owners. Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include: </td> <td style="width: 20%; text-align: center; vertical-align: middle;"> Mandatory <u>8 POINTS</u> </td> </tr> </table>		1002.4 Training of building owners. Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:	Mandatory <u>8 POINTS</u>
1002.4 Training of building owners. Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:	Mandatory <u>8 POINTS</u>			
Reason:	Aligns with Measure 11.1001.2; In the development of the 2015 NGBS this measure was changed from being worth 8 point to being Mandatory. While making this mandatory is good, the loss of 8 points in Chapter 10 makes it extremely difficult for projects to achieve Gold or Emerald Certification.			
TG Recommendation (AS or AM or D):				
Modification of Proposed Change:				
TG Reason:				
TG Vote:				

Proposal ID TBD	LogID 6560	1002.4 Training of building owners
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	(Points) Mandatory <u>8</u> points	
Reason:	Achieving required minimums of 8 points for this Chapter is not possible without inclusion of points for this mandatory measure. Previous points were removed during prior update 2012, likely inadvertently.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		

TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6291	1005.1 Reserved – To Be Determined
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<p>1005.1 Appraisals. One or more of the following is implemented.</p> <p><u>(1) Energy rating data is posted to publicly accessible database so that appraisers can access it for performing "green" property valuations. - 2 POINTS</u></p> <p><u>(2) Green certification data is provided so that appraisers can access it for performing "green" property valuations. - 2 POINTS</u></p>	
Reason:	The real key to increasing demand for high-performance homes is getting the information to home appraisers in such a way that they can recognize the increased value of the green certified home above that of a conventionally built home.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6359	Other for Chapter 10 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	Section 1006 - <u>Add new section as relevant for Health & Well-being awareness credits.</u>	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6557	Other for Chapter 10 (include section number and title below)
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	<u>1005 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)</u>	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		

TG Vote:	
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Proposal ID TBD	LogID 6307	Other for Chapter 10 (include section number and title below)
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	<p>1001.1 Homeowner's manual. A homeowner's manual is provided and stored in a permanent location in the dwelling that includes the following, as available and applicable...</p> <p>...</p> <p>(24) Retrofit energy calculator that provides baseline for future energy retrofits.</p> <p><u>(25) Disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse.</u></p> <p>1001.2 Training of initial homeowners. Initial homeowners are familiarized with <u>their role</u> and the role of occupants in achieving green goals. Training is provided to the responsible party(ies) regarding <u>equipment building operation and maintenance, including equipment operation and building material replacement, and regarding</u> occupant actions that will improve the environmental performance of the building. These include, <u>as applicable...</u></p> <p>...</p> <p>(7) Recycling and composting practices.</p> <p><u>(8) Disassembly methods for building components, material suitability for recycling and reuse, replacement with other recyclable/reusable materials.</u></p>	
Reason:	Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing building-material recovery. A disassembly plan and building-owner training on the disassembly methods and reuse/recycling properties of the major building components, facilitate disassembly and appropriate material management, and help realize the intent and benefits of the Design for Adaptation and Disassembly measures. Solution: Add Disassembly Plan as an additional item to be provided to homeowner, as applicable. Include training on disassembly methods and building material reuse/recycling properties as an additional training for parties responsible for building maintenance and operation, including replacement of building materials.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6308	Other for Chapter 10 (include section number and title below)
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	<p>1002.1 Building construction manual. A building construction manual, including five or more of the following, is compiled and distributed...</p> <p>...</p> <p>(8) A photo record of framing with utilities installed. Photos are taken prior to installing insulation and clearly labeled.</p> <p><u>(9) Disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse.</u></p> <p>1002.3 Maintenance manual. Maintenance manuals are created and distributed to the responsible parties in accordance with Section 1002.0. Between all of the maintenance manuals, five or more of the following options are included...</p> <p>...</p> <p>(10) A green cleaning plan which includes guidance on sustainable cleaning products.</p> <p><u>(11) For use during building component maintenance and replacement, a disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse.</u></p>	

	<p>1002.4 Training of building owners. Building owners are familiarized with the roles of operations and maintenance staff and occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding <u>equipment building operation and maintenance, including equipment operation, control systems and building material replacement</u> and regarding occupant actions that will improve the environmental performance of the building. These include, <u>as applicable...</u></p> <p>...</p> <p>(7) Recycling and composting practices.</p> <p>(8) <u>Disassembly methods for building components, material suitability for recycling and reuse, replacement with other recyclable/reusable materials.</u></p>
Reason:	Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing building-material recovery. A disassembly plan and building-owner training on the disassembly methods and reuse/recycling properties of the major building components, facilitate disassembly and appropriate material management, and help realize the intent and benefits of the Design for Adaptation and Disassembly measures. Solution: Add Disassembly Plan as an additional item to be provided to building owners and parties responsible for operations and maintenance. Include training on disassembly methods and building material reuse/recycling properties as an additional training for parties responsible for building maintenance and operation, including replacement of building materials.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6480	Other for Chapter 10 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 1006.1 - Material Transparency - All relevant declare labels, health product declarations, building product disclosures are provided to the occupant.</u>	
Reason:	Homeowners and building occupants have the right to know what products are being installed in the building. Raise awareness about the possible toxicity of building materials supports changes in the industry for healthier products.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 1513	Other for Chapter 10 (include section number and title below)
Submitter:	Carl Seville, SK Collaborative	
Requested Action:	Revise as follows	
Proposed Change:	1002 – Combine operations and maintenance manual for Multifamily buildings into a single document. Add a separate tenant/occupant manual for occupants of multifamily buildings to provide them with reference and training materials to properly manage their apartment or condo unit.	
Concurrent Review Staff Note:	<i>This proposal is also being reviewed by TG-4 (Water Efficiency, Operation & Owner Education) as the proposal will affect multifamily buildings.</i>	

Reason:	
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Others Assigned to TG-4

Proposal ID TBD	LogID 6335	202 Definitions
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	Plumbing Fixture: A receptor or device that requires both a water-supply connection and <u>or</u> a discharge to the drainage system <u>or both</u> , such as water closets, lavatories, bathtubs, and sinks.	
Reason:	The current definition excludes non-water urinals although they are considered a plumbing fixture by both the industry and recognized codes and standards. Note the definition in the International Plumbing code and Uniform Plumbing Codes - IPC: A receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Such receptacles or devices require a supply of water; or discharge liquid waste or liquid-borne solid waste; or require a supply of water and discharge waste to a drainage system. UPC: An approved-type installed receptacle, device, or appliance that is supplied with water or that receives liquid or liquid-borne wastes and discharges such wastes into the drainage system to which it may be directly or indirectly connected. Industrial or commercial tanks, vats, and similar processing equipment are not plumbing fixtures, but may be connected to or discharged into approved traps or plumbing fixtures where and as otherwise provided for elsewhere in this code.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		