

# Proposed Changes

May 19, 2014

|   |     |
|---|-----|
| TG-1: Administration, Compliance, and Operation & Owner Education ..... | 1   |
| Chapter 1: Scope and Administration.....                                | 1   |
| Chapter 2: Definitions.....   | 3   |
| Chapter 3: Compliance Method.....                                       | 7   |
| Chapter 10: Operation, Maintenance, and Building Owner Education.....   | 8   |
| Appendix E: Accessory Structures.....                                   | 13  |
| TG-2: Site and Lot Development.....                                     | 14  |
| Chapter 4: Site Design and Development.....                             | 14  |
| Chapter 5: Lot Design, Preparation and Development.....                 | 29  |
| TG-3: Resource Efficiency and Indoor Air Quality.....                   | 43  |
| Chapter 6: Resource Efficiency .....                                    | 43  |
| Chapter 9: Indoor Environmental Quality .....                           | 68  |
| Appendix B: Ducted Garage Exhaust Fan Sizing Criteria .....             | 81  |
| TG-4: Water Efficiency .....  | 82  |
| Chapter 8: Water Efficiency .....                                       | 82  |
| TG-5: Energy Efficiency .....   | 88  |
| Chapter 7: Energy Efficiency .....                                      | 88  |
| TG-6: Multifamily Proposals .....                                       | 125 |
| Chapter 3: 304 Green Multi-Unit Buildings .....                         | 125 |
| TG-7: Renovations and Additions .....                                   | 126 |
| Chapter 3: 305 Green Remodeling .....                                   | 126 |
| Chapter 11: Remodeling .....  | 128 |
| Chapter 12: Remodeling of Functional Areas.....                         | 139 |



## TG-4: Water Efficiency

### Chapter 8: Water Efficiency

| Proposal ID TBD                           | LogID 5164  | 801.2 Water-conserving appliances |
|---|---|-----------------------------------|
| <b>Submitter:</b>                         | Brett VanAkkeren, USEPA   |                                   |
| <b>Requested Action:</b>                  | Revise as follows   |                                   |
| <b>Proposed Change:</b>                   | (3) washing machine with a water factor of <del>6.0</del> <u>4.0</u> or less  |                                   |
| <b>Reason:</b>                            | The maximum water factor for an ENERGY STAR qualified washing machine is 6.0. (a lower value is more water efficient) It would seem that the highest number of points should go to more efficient washing machines. There are 494 labeled ENERGY STAR models of clothes washers and 360 have a water factor of 4.0 or less. |                                   |
| <b>TG Recommendation (AS or AM or D):</b> |   |                                   |
| <b>Modification of Proposed Change:</b>   |   |                                   |
| <b>TG Reason:</b>                         |   |                                   |
| <b>TG Vote:</b>                           |   |                                   |

| Proposal ID TBD                           | LogID 5165   | 801.3 Showerheads |
|---|--|-------------------|
| <b>Submitter:</b>                         | Brett VanAkkeren, USEPA  |                   |
| <b>Requested Action:</b>                  | Revise as follows  |                   |
| <b>Proposed Change:</b>                   | (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:<br>(a) <del>2.0 to less than 2.5 gpm.</del> 11 Additional WaterSense labeled -- 11 points<br>(b) <del>1.6 to less than 2.0 gpm</del> WaterSense labeled and flow rate of 1.7 gpm or less -- 14 points  |                   |
| <b>Reason:</b>                            | All EPACT compliant showerheads that flowed at 2.5 or less would receive points under (1). They could simplify by recognizing high efficiency showerheads labeled by WaterSense which have a maximum flow of 2.0 gpm. This would ensure that performance criteria would be met – allowing the floor of 1.6 gpm could be eliminated. Provide additional points for WaterSense labeled showerheads that flow at 1.7 gpm or less. |                   |
| <b>TG Recommendation (AS or AM or D):</b> |  |                   |
| <b>Modification of Proposed Change:</b>   |  |                   |
| <b>TG Reason:</b>                         |  |                   |
| <b>TG Vote:</b>                           |  |                   |

| Proposal ID TBD                           | LogID 5138   | 801.3 Showerheads |
|---|--|-------------------|
| <b>Submitter:</b>                         | Robert Hill, Home Innovation Research Labs   |                   |
| <b>Requested Action:</b>                  | Revise as follows  |                   |
| <b>Proposed Change:</b>                   | 801.3 (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 2.45 gpm. Maximum of two valves are installed per shower compartment. The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flowrate of the showerhead.                   |                   |
| <b>Reason:</b>                            | The federal minimum rate is 2.5 gpm. With the practice worded at "... to less than 2.5 gpm" makes it too easy for someone to quickly read it and assume that a 2.5 gpm showerhead complies. The "less than" should be defined to be substantial enough to be rewarded with points. A showerhead at 2.49 gpm would get the points but is that really worth 4 points. The upper limit of 2.4 is merely a suggestion. The committee is encouraged to set a value that represents a practical reduction over the current federal minimum worthy of the points. |                   |
| <b>TG Recommendation (AS or AM or D):</b> |  |                   |
| <b>Modification of Proposed Change:</b>   |  |                   |
| <b>TG Reason:</b>                         |  |                   |
| <b>TG Vote:</b>                           |  |                   |

| Proposal ID TBD                           | LogID 5139   | 801.4.1 Lavatory faucets |
|---|--|--------------------------|
| <b>Submitter:</b>                         | Robert Hill, Home Innovation Research Labs   |                          |
| <b>Requested Action:</b>                  | Revise as follows  |                          |
| <b>Proposed Change:</b>                   | 801.4.1 Water-efficient lavatory faucets with a maximum flow rate of 1.5 gpm (5.68 L/m), tested at 60 psi (414kPa) in accordance with ASME A112.18.1, are installed:<br><br>(Points awarded for 801.4.1 or 801.4.2, not both). |                          |
| <b>Reason:</b>                            | This change is to make it consistent with the treatment for all the toilets in the home meeting 801.5.2. Or a change could be made to 801.5 to be consistent with 801.4.   |                          |
| <b>TG Recommendation (AS or AM or D):</b> |  |                          |
| <b>Modification of Proposed Change:</b>   |  |                          |
| <b>TG Reason:</b>                         |  |                          |
| <b>TG Vote:</b>                           |  |                          |

| Proposal ID TBD                           | LogID 5166  | 801.4.1 Lavatory faucets |
|---|---|--------------------------|
| <b>Submitter:</b>                         | Brett VanAkkeren, USEPA   |                          |
| <b>Requested Action:</b>                  | Revise as follows   |                          |
| <b>Proposed Change:</b>                   | <u>WaterSense</u> labeled water-efficiency lavatory faucets...                              |                          |
| <b>Reason:</b>                            | We recommend referencing WaterSense labeled lavatory faucets which flow at 1.5 gpm or less. |                          |
| <b>TG Recommendation (AS or AM or D):</b> |   |                          |
| <b>Modification of Proposed Change:</b>   |   |                          |
| <b>TG Reason:</b>                         |   |                          |
| <b>TG Vote:</b>                           |   |                          |

| Proposal ID TBD                    | LogID 5167   | 801.4.1 Lavatory faucets |
|------------------------------------|--|--------------------------|
| Submitter:                         | Brett VanAkkeren, USEPA  |                          |
| Requested Action:                  | Revise as follows  |                          |
| Proposed Change:                   | Revise: (2) all lavatory faucets in the dwelling unit(s) <del>and common areas</del><br>Replace "and common areas with" new text:<br><u>801.4.3 Water-efficient lavatory faucets with a maximum flow rate of 0.5 gpm (1.89 L/m), tested at 60 pst (414 kPa) in accordance with ASME A112.18.1, are installed in all common areas. – 3 points</u> |                          |
| Reason:                            | In a public use or common area, they should not use private use lavatory faucets (which WaterSense labels at 1.5 gpm or less). The commonly accepted flow rate for public use lavatory faucets is 0.5 gpm, so giving points for a faucet that flows at 1.5 gpm is counter to the "greening" intent of the standard.                              |                          |
| TG Recommendation (AS or AM or D): |  |                          |
| Modification of Proposed Change:   |  |                          |
| TG Reason:                         |  |                          |
| TG Vote:                           |  |                          |

| Proposal ID TBD                    | LogID 5168   | 801.5 Water closets and urinals |
|------------------------------------|--|---------------------------------|
| Submitter:                         | Brett VanAkkeren, USEPA  |                                 |
| Requested Action:                  | Revise as follows  |                                 |
| 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 A112.18.14 as applicable, and is <del>in accordance with EPA WaterSense labeled Tank-Type Toilets.</del> |                                 |
| Reason:                            | Simplify language to ensure that products are certified as meeting the WaterSense specification of 1.28 gpf. As currently drafted, it could suggest that a product that met the specification but had not been certified as doing so could earn the points.              |                                 |
| TG Recommendation (AS or AM or D): |  |                                 |
| Modification of Proposed Change:   |  |                                 |
| TG Reason:                         |  |                                 |
| TG Vote:                           |  |                                 |

| Proposal ID TBD                    | LogID 5169  | 801.5 Water closets and urinals |
|------------------------------------|---|---------------------------------|
| Submitter:                         | Brett VanAkkeren, USEPA   |                                 |
| Requested Action:                  | Revise as follows   |                                 |
| Proposed Change:                   | <b>(4)(b)</b> One or more <u>WaterSense labeled</u> urinals with a flush volume of 0.5 gallons (1.9L) or less when tested in accordance with ASME A112.19.2.  |                                 |
| Reason:                            | Simplify language to ensure that products are certified as meeting the WaterSense specification, which allows a maximum volume of 0.5 gpf. Although not a comment, there does not appear to be a maximum value for this subsection as there is for water closets. |                                 |
| TG Recommendation (AS or AM or D): |   |                                 |
| Modification of Proposed Change:   |   |                                 |
| TG Reason:                         |   |                                 |
| TG Vote:                           |   |                                 |

| Proposal ID TBD                    | LogID 5140   | 801.6.2 Drip irrigation is installed |
|------------------------------------|--|--------------------------------------|
| Submitter:                         | Robert Hill, Home Innovation Research Labs   |                                      |
| Requested Action:                  | Revise as follows  |                                      |
| Proposed Change:                   | <b>801.6.2</b> Drip irrigation is installed.<br>(1) Drip irrigation is installed for <u>all</u> landscape beds.<br>(2) Subsurface drip is installed for <u>all</u> turf grass areas.<br>(3) <u>Drip irrigation zones specifications show plant type by name and water use/need for each emitter (Points awarded only if specifications are implemented.)</u> |                                      |
| Reason:                            | Some indication of how much drip irrigation is needed for the points should be included in the practice. 801.6.4 seems out of place when it should be connected to 801.6.2. If this change is done the "8 Max" needs to be deleted.  |                                      |
| TG Recommendation (AS or AM or D): |  |                                      |
| Modification of Proposed Change:   |  |                                      |
| TG Reason:                         |  |                                      |
| TG Vote:                           |  |                                      |

| Proposal ID TBD                    | LogID 5141  | 801.6.3 Landscape plan and implementation |
|------------------------------------|---|---|
| Submitter:                         | Robert Hill, Home Innovation Research Labs  |   |
| Requested Action:                  | Revise as follows   |   |
| Proposed Change:                   | <b>801.6.3</b> Landscapeplan and implementation are executed by a certified WaterSense Professional or equivalent as approved by Adopting Entity. <del>5 Additional</del> . |   |
| Reason:                            | It is not clear what these points are in addition to. Are points required in 801.6.1 and/or 801.6.2 and if so how many are required.  |   |
| TG Recommendation (AS or AM or D): |   |   |
| Modification of Proposed Change:   |   |   |
| TG Reason:                         |   |   |
| TG Vote:                           |   |   |

| Proposal ID TBD                    | LogID 5170   | 801.6.3 Landscape plan and implementation |
|------------------------------------|--|---|
| Submitter:                         | Brett VanAkkeren, USEPA  |   |
| Requested Action:                  | Revise as follows  |   |
| Proposed Change:                   | Landscape <u>irrigation</u> plan and implementation are executed by a <del>certified WaterSense Professional or professional certified by a WaterSense labeled program</del> or equivalent as approved by Adopting Entity.   |   |
| Reason:                            | WaterSense does not have a professional certification category for landscape planning – only for irrigation design, installation and audits. Language has been changed to reflect irrigation focus and also to reflect pending changes to the WaterSense program that will require changes in how we talk about certified professionals. |   |
| TG Recommendation (AS or AM or D): |  |   |
| Modification of Proposed Change:   |  |   |
| TG Reason:                         |  |   |
| TG Vote:                           |  |   |

| Proposal ID TBD                           | LogID 5142  | 801.6.4 Drip irrigation zones specifications show plant type |
|---|---|--|
| <b>Submitter:</b>                         | Robert Hill, Home Innovation Research Labs  |  |
| <b>Requested Action:</b>                  | Delete without substitution   |  |
| <b>Proposed Change:</b>                   | 801.6.4delete without replacement   |  |
| <b>Reason:</b>                            | Another proposed change has been submitted to include this practice as part of 801.6.2. |  |
| <b>TG Recommendation (AS or AM or D):</b> |   |  |
| <b>Modification of Proposed Change:</b>   |   |  |
| <b>TG Reason:</b>                         |   |  |
| <b>TG Vote:</b>                           |   |  |

| Proposal ID TBD                           | LogID 5067   | 801.6.5 Irrigation system(s) smart controller or no irrigation is installed |
|---|--|---|
| <b>Submitter:</b>                         | Philip LaRocque, LaRocque Business Management Services, LLC  |   |
| <b>Requested Action:</b>                  | Revise as follows  |   |
| <b>Proposed Change:</b>                   | 801.6.5 (2) No irrigation is installed <del>and a landscape plan is developed in accordance with Section 503.5, as applicable.</del>   |   |
| <b>Reason:</b>                            | We need to return to the 2008 NGBS on this practice. A builder should be rewarded for simply not having an irrigation system with no requirement to have a landscape plan. We should be motivating the conservation of water thru no irrigation system installation without the builder adding the expense of a landscape plan with two practices. |   |
| <b>TG Recommendation (AS or AM or D):</b> |  |   |
| <b>Modification of Proposed Change:</b>   |  |   |
| <b>TG Reason:</b>                         |  |   |
| <b>TG Vote:</b>                           |  |   |

| Proposal ID TBD                           | LogID 5052   | 801.6.5 Irrigation system(s) smart controller or no irrigation is installed |
|---|--|---|
| <b>Submitter:</b>                         | Robert Hill, Home Innovation Research Labs   |   |
| <b>Requested Action:</b>                  | Revise as follows  |   |
| <b>Proposed Change:</b>                   | (2) No irrigation is installed and a landscape plan is developed <u>and implemented</u> in accordance with Section 503.5, <del>as applicable.</del> (1)-(4) and achieving at minimum of X points from (1)-(4).     |   |
| <b>Reason:</b>                            | The 2012 NGBS is not clear if all or only some of the 503.5 practices must be met. Some of the 503.5 practices do not really impact water usage. The task group should recommend the appropriate number of points. |   |
| <b>TG Recommendation (AS or AM or D):</b> |  |   |
| <b>Modification of Proposed Change:</b>   |  |   |
| <b>TG Reason:</b>                         |  |   |
| <b>TG Vote:</b>                           |  |   |

| Proposal ID TBD                           | LogID 5171   | 801.6.5 Irrigation system(s) smart controller or no irrigation is installed |
|---|--|---|
| <b>Submitter:</b>                         | Brett VanAkkeren, USEPA  |   |
| <b>Requested Action:</b>                  | Revise as follows  |   |
| <b>Proposed Change:</b>                   | <p>(1) Evapotranspiration (ET) based irrigation controller with a rain sensor or soil moisture sensor based irrigation controller. --- 8 points</p> <p>(2) <u>WaterSense</u> labeled irrigation controller -- 10 points</p> <p>(3) <del>(2)</del> No irrigation is installed....</p> |   |
| <b>Reason:</b>                            | EPA WaterSense now has a specification to label weather-based irrigation controllers and is in the process of developing a similar specification for soil moisture based irrigation controllers. We suggest providing points for those controllers.                                  |   |
| <b>TG Recommendation (AS or AM or D):</b> |  |   |
| <b>Modification of Proposed Change:</b>   |  |   |
| <b>TG Reason:</b>                         |  |   |
| <b>TG Vote:</b>                           |  |   |

| Proposal ID TBD                           | LogID 5153   | Other for Chapter 8 (include section number and title below) |
|---|--|--|
| <b>Submitter:</b>                         | Stephen J Holzer, eM8s, LLC  |  |
| <b>Requested Action:</b>                  | Add new as follows   |  |
| <b>Proposed Change:</b>                   | <p><b>802.6 Building Information Modeling (BIM)</b></p> <p>Project Team uses BIM to develop a whole house model and applies that model to optimize water efficiency requirements.</p>  |  |
| <b>Reason:</b>                            | Building Information Modeling (BIM) is a computer generated model based process that simulates planning, design, construction and operations for buildings. It is a single repository for both three-dimensional, two-dimensional, and material properties information that allows data interoperability of all stakeholders to better inform design and construction decisions with the goal of producing the best product possible. This information technology will increase design and construction efficiencies and decrease costs for builders and end users. BIM may also facilitate better communication, collaboration and coordination among building industry professionals and trades working on the same project. Credit should be given to Builders utilizing the open industry standards as defined in the National Building Information Modeling Standard. |  |
| <b>TG Recommendation (AS or AM or D):</b> |  |  |
| <b>Modification of Proposed Change:</b>   |  |  |
| <b>TG Reason:</b>                         |  |  |
| <b>TG Vote:</b>                           |  |  |