

**Version Tracking Document for
ENERGY STAR Qualified Homes, Version 3 (Rev. 04)
08/29/2011**

In the time since Revision 03 of the Version 3 ENERGY STAR New Homes guidelines were released, EPA has modified, clarified, and refined various aspects of the program documents, primarily in response to partner questions and comments. This document is a summary of these edits, organized by the program document containing the change. EPA has also posted the revised program documents, labeled Version 3 (Rev. 04), on its Web site at www.energystar.gov/newhomesguidelines.

All revisions are categorized as a Change, Clarification, or Refinement. These are defined as follows:

Change – The addition, deletion, or modification of a program requirement. A change will typically result from a partner question or feedback indicating that EPA’s original intent is not being met or due to changes in relevant standards (e.g., ENERGY STAR labeled product requirements, NAECA standards, IECC codes). A change is the most significant type of edit for partners because it is likely to change the way that partners comply with the program.

Clarification – The clarification of a program requirement, typically resulting from a partner question indicating confusion or ambiguity. Clarifications are not intended to significantly change the scope of the program guidelines, but rather to clarify the original intent of the requirement. A clarification is secondary in importance to a change; it should not significantly alter the way that most partners comply with the program.

Refinement – A minor revision, such as an improved choice of words, a grammatical correction, or a correction to a typographical error. A refinement is the least important type of edit; it should have no impact on the way that partners comply with the program.

National Program Requirements

1. Clarification – Footer on All Pages

The footer on each page of the National Program Requirements states that Revision 04 is effective for homes permitted starting 10/01/2011. A footnote has been added to provide a definition of the word “permitted”. EPA’s policy is that the permit or contract date, along with the date of final inspection, determines the version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that either the permit date or the contract date should generally be available. However, in cases where the permit date or contract date is not available, Providers have discretion to estimate the permit date based on other construction schedule factors. These assumptions should be both defensible and documented.

The language in the footnote is as follows: “The Rater may define the ‘permit date’ as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.”

2. Change – Qualifying Homes

EPA has recently launched its ENERGY STAR Multifamily High Rise Program. To harmonize with the eligibility requirements of that new program, the eligibility requirements on page one of the National Program Requirements have been revised as follows:

“The following homes are eligible to earn the ENERGY STAR:

- “Single family homes; OR
- “Units in any multifamily building with 4 units or fewer; OR
- “Units in multifamily buildings with 3 stories or fewer above-grade^{1,2}; OR
- “Units in multifamily buildings with 4 or 5 stories above-grade^{1,2} that have their own heating, cooling, and hot water systems³, separate from other units, and where dwelling units occupy 80% or more of the occupiable² square footage of the building.⁴ When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

“Units in multifamily buildings that are not eligible to earn the ENERGY STAR through the New Homes Program may be eligible through the Multifamily High Rise Program.

The following footnotes have also been added to further define the eligibility requirements for multifamily homes:

1. "Any above-grade story with 20% or more occupiable space, including commercial space, shall be counted towards the total number of stories for the purpose of determining eligibility to participate in the program. The definition of an 'above-grade story' is one for which more than half of the gross surface area of the exterior walls is above-grade. All below-grade stories, regardless of type, shall not be included when evaluating eligibility.
2. "Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas.
3. "Central systems for domestic hot water are allowed if solar energy provides at least 50% of the domestic hot water needs for the residential units.
4. "Units in multifamily buildings with 4 or 5 stories above-grade, including mixed-use buildings, that have their own heating, cooling, and hot water systems, separate from other units, *but where dwelling units occupy less than 80%* of the residential (i.e., excluding commercial / retail space for mixed-use buildings) occupiable square footage of the building may qualify for the ENERGY STAR through either the New Homes Program or the Multifamily High Rise Program if permitted prior to July 1, 2012. Units in buildings of this type that are permitted after this date shall only be eligible to earn the ENERGY STAR through the Multifamily High Rise (MFHR) Program."

3. **Change – Prescriptive Path**

EPA will now allow all bedrooms in the home, regardless of location, to be counted when determining the Benchmark Home Size. This change will prevent the application of a significant Size Adjustment Factor for homes with the majority of bedrooms located in the basement.

This policy change will result in the same or less stringent target for all partners. Note that no change is being made to EPA's policy of excluding floor area in basements with at least half of the gross surface area of the exterior walls below grade. That is to say, floor area in basements with at least half of the gross surface area of the basement's exterior walls below grade shall not be counted when determining a home's Benchmark Home Size, Size Adjustment Factor, and eligibility to use the Prescriptive Path.

A minor typographical error, the omission of the word "be", has also been corrected in the first sentence of this section and guidance for homes with no bedrooms has been moved from the footnote into the main body of the document.

Step 1 of the Prescriptive Path has been revised as follows:

"First, assess the eligibility to follow the Prescriptive Path by comparing the conditioned floor area (CFA) of the home to be built to the CFA of the Benchmark Home as specified in Exhibit 3. For the purposes of this step, calculate the number of bedrooms and the CFA of the home to be built using RESNET standards with the following exception: floor area in basements with at least half of the gross surface area of the basement's exterior walls below grade shall not be counted. If a home has zero bedrooms with regard to the Benchmark Home Size determination, then the Benchmark Home Size for one bedroom shall be used. If the CFA of the home to be built exceeds the CFA of the Benchmark Home, then the Performance Path shall be used."

In addition, partners have expressed difficulty determining the percentage of gross basement wall area that is below grade when walls are not in contact with either the ground or outdoor ambient air. EPA intended to exclude walls that are not in contact with either the ground or outdoor ambient air because of this challenge. Footnote 7 has been revised as follows to clarify this intent:

"To determine whether at least half of the basement wall area is below grade, use the gross surface area of the walls that are in contact with either the ground or ambient outdoor air, measured from the basement floor to the bottom of the basement ceiling framing (e.g., the bottom of the joists for the floor above). Note that the exception regarding the floor area in basements is only for the purpose of determining a home's Benchmark Home Size, Size Adjustment Factor, and eligibility to use the Prescriptive Path. The full conditioned floor area, per RESNET's standards, should be used when rating the home (e.g., determining compliance with duct leakage requirements)."

4. **Refinement – Step 2 of the Prescriptive Path and Step 1 of the Performance Path**

To improve layout, redundant language has been removed that relates to EPA's process for states with codes significantly more rigorous than the 2009 IECC. In the Qualifying Homes section, EPA states that homes may earn the ENERGY STAR using the ENERGY STAR Prescriptive Path or Performance Path in all states except those with an energy code exceeding the 2009 IECC and for which EPA regional program requirements have been developed. This section then directs the reader to EPA's Web site. Similar language that was contained in Step 2 of the Prescriptive Path procedure and Step 1 of the Performance Path procedure has been removed.

5. **Refinement** – Exhibit 1

The requirement that, under the Prescriptive Path, refrigerators, dishwashers, ceiling fans, and exhaust fans be ENERGY STAR qualified if installed has been refined to clarify that any such appliances must be qualified if installed; the requirement is not restricted to cases where all appliances are installed.

The revised language is as follows: “Where refrigerators, dishwashers, ceiling fans, or exhaust fans are installed, products shall be ENERGY STAR qualified.”

6. **Change** – Exhibit 4

The implementation schedule in Exhibit 4 has been revised to enable partners to take full advantage of the transitional Version 2.5 guidelines and to successfully implement the Version 3 guidelines. Homes permitted before January 1, 2012 can be qualified under Version 2.5 through June 30, 2012. Homes permitted beginning January 1, 2012 still must be qualified under Version 3.

7. **Clarification** – Exhibit 4

Footnote 2 to Exhibit 4 has been revised to accommodate partners that cannot determine either the permit date or the date of the contract for the home to be qualified. EPA’s policy is that the permit or contract date, along with the date of final inspection, determines the version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that either the permit date or the contract date should generally be available. However, in cases where the permit date or contract date is not available, Providers have discretion to estimate the permit date based on other construction schedule factors. These assumptions should be both defensible and documented.

The revised language is as follows: “The Rater may define the ‘permit date’ as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.”

8. **Refinement** – Performance Path Step 2, Footnote 12

To better convey the intent of this footnote, the phrase “slab framing system” has been replaced with “floor assemblies” in Footnote 12. The revised language is as follows: “Insulation shall be verified by a Rater to achieve Grade I installation as defined in the RESNET Standards, except for ceiling, wall, and floor assemblies with continuous rigid insulation sheathing. For such homes, Grade II installation is acceptable for the cavity insulation only if the rigid insulation sheathing meets or exceeds the following levels: R-3 in Climate Zones 1 to 4; R-5 in Zones 5 to 8.”

9. **Refinement** – Footnote 6

To clarify which edition of the IRC is referenced in Footnote 6, the last paragraph has been revised to begin as follows: “An egress window, as defined in 2009 IRC section R310, shall refer to any operable window that provides for a means of escape and access for rescue in the event of an emergency.”

10. **Clarification** – Footnote 8

Footnote 8 has been revised to include Rating Field Inspectors in the list of parties that is encompassed by the term, “Rater”. The revised language is as follows: “The term ‘Rater’ refers to the person completing the third-party inspections required for qualification. This party may be a certified Home Energy Rater, Rating Field Inspector, BOP Inspector, or an equivalent designation as determined by a Verification Oversight Organization such as RESNET.”

11. **Refinement** – Footnote 11d

Partners have advised that this footnote referenced erroneous guidance contained in the 2009 IECC related to the UA calculation for a steel-frame envelope assembly. To correct this, the last sentence of Footnote 11d has been revised as follows: “The calculation for a steel-frame envelope assembly shall use the ASHRAE zone method or a method providing equivalent results, and not a series-parallel path calculation method.”

12. **Refinement** – Exhibit 2, Footnote 29

To use the complete name for clarity, Footnote 29 has been revised as follows: “A completed and signed Indoor airPLUS Verification Checklist may be submitted in lieu of the Water Management System Builder Checklist. Indoor airPLUS is a complimentary EPA label recognizing new homes equipped with a comprehensive set of

Indoor Air Quality (IAQ) features. Indoor airPLUS verification can be completed by a Rater during the ENERGY STAR verification process. For more information, see www.epa.gov/indoorairplus.”

ENERGY STAR County-Level Reference Design for all Climate Zones

13. **Clarification** – Footer on All Pages

The footer on each page of the county-level reference designs states that Revision 04 is effective for homes permitted starting 10/01/2011. A footnote has been added to provide a definition of the word “permitted”. EPA’s policy is that the permit or contract date, along with the date of final inspection, determines the version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that either the permit date or the contract date should generally be available. However, in cases where the permit date or contract date is not available, Providers have discretion to estimate the permit date based on other construction schedule factors. These assumptions should be both defensible and documented.

The language in the footnote is as follows: “The Rater may define the ‘permit date’ as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.”

14. **Change** – Qualifying Homes

EPA has recently launched its ENERGY STAR Multifamily High Rise Program. To harmonize with the eligibility requirements of that new program, the eligibility requirements on page one of the County-Level Reference Design has been revised as follows:

“The following homes are eligible to earn the ENERGY STAR:

- Single family homes; OR
- Units in any multifamily building with 4 units or fewer; OR
- Units in multifamily buildings with 3 stories or fewer above-grade^{2,3}; OR
- Units in multifamily buildings with 4 or 5 stories above-grade^{4,5} that have their own heating, cooling, and hot water systems⁴, separate from other units, and where dwelling units occupy 80% or more of the occupiable³ square footage of the building.⁵ When evaluating mixed-use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

Units in multifamily buildings that are not eligible to earn the ENERGY STAR through the New Homes Program may be eligible through the Multifamily High Rise Program.”

The following footnotes have also been added to further define the eligibility requirements for multifamily homes:

2. “Any above-grade story with 20% or more occupiable space, including commercial space, shall be counted towards the total number of stories for the purpose of determining eligibility to participate in the program. The definition of an ‘above-grade story’ is one for which more than half of the gross surface area of the exterior walls is above-grade. All below-grade stories, regardless of type, shall not be included when evaluating eligibility.”
3. “Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas.”
4. “Central systems for domestic hot water are allowed if solar energy provides at least 50% of the domestic hot water needs for the residential units.”
5. “Units in multifamily buildings with 4 or 5 stories above-grade, including mixed-use buildings, that have their own heating, cooling, and hot water systems, separate from other units, but where dwelling units occupy less than 80% of the residential (i.e., excluding commercial / retail space for mixed-use buildings) occupiable square footage of the building may qualify for the ENERGY STAR through either the New Homes Program or the Multifamily High Rise Program if permitted prior to July 1, 2012. Units in buildings of this type that are permitted after this date shall only be eligible to earn the ENERGY STAR through the Multifamily High Rise (MFHR) Program.”

15. **Change** – Prescriptive Path

EPA will now allow all bedrooms in the home, regardless of location, to be counted when determining the Benchmark Home Size. This change will prevent the application of a significant Size Adjustment Factor for homes with the majority of bedrooms located in the basement.

This policy change will result in the same or less stringent target for all partners. Note that no change is being made to EPA's policy of excluding floor area in basements with at least half of the gross surface area of the exterior walls below grade. That is to say, floor area in basements with at least half of the gross surface area of the basement's exterior walls below grade shall not be counted when determining a home's Benchmark Home Size, Size Adjustment Factor, and eligibility to use the Prescriptive Path.

A minor typographical error, the omission of the word "be", has also been corrected in the first sentence of step 1 of the Prescriptive Path, guidance for homes with no bedrooms has been moved from the footnote into the main body of the document, and an incorrect reference to Exhibit 3 was changed to Exhibit 2.

Step 1 of the Prescriptive Path on the County-Level Reference Design has been revised as follows:

"First, assess the eligibility to follow the Prescriptive Path by comparing the conditioned floor area (CFA) of the home to be built to the CFA of the Benchmark Home as specified in Exhibit 3. For the purposes of this step, calculate the number of bedrooms and the CFA of the home to be built using RESNET standards with the following exception: floor area in basements with at least half of the gross surface area of the basement's exterior walls below grade shall not be counted. If a home has zero bedrooms with regard to the Benchmark Home Size determination, then the Benchmark Home Size for one bedroom shall be used. If the CFA of the home to be built exceeds the CFA of the Benchmark Home, then the Performance Path shall be used. See www.energystar.gov/newhomesguidelines for more information on the Performance Path."

In addition, partners have expressed difficulty determining the percentage of gross basement wall area that is below grade when walls are not in contact with either the ground or outdoor ambient air. EPA intended to exclude walls that are not in contact with either the ground or outdoor ambient air because of this challenge. Footnote 8 has been revised as follows to clarify this intent:

"To determine whether at least half of the basement wall area is below grade, use the gross surface area of the walls that are in contact with either the ground or ambient outdoor air, measured from the basement floor to the bottom of the basement ceiling framing (e.g., the bottom of the joists for the floor above). Note that the exception regarding the floor area in basements is only for the purpose of determining a home's Benchmark Home Size, Size Adjustment Factor, and eligibility to use the Prescriptive Path. The full conditioned floor area, per RESNET's standards, should be used when rating the home (e.g., determining compliance with duct leakage requirements)."

16. **Refinement – Step 2 of the Prescriptive Path**

To improve layout, redundant language has been removed that relates to EPA's process for states with codes significantly more rigorous than the 2009 IECC. In the Qualifying Homes section, EPA states that homes may earn the ENERGY STAR using the ENERGY STAR Prescriptive Path or Performance Path in all states except those with an energy code exceeding the 2009 IECC and for which EPA regional program requirements have been developed. This section then directs the reader to EPA's Web site. Similar language that was contained in Step 2 of the Prescriptive Path procedure has been removed.

17. **Refinement – Exhibit 3, Footnote 7, Footnote 10**

To improve clarity, a " \leq " symbol has been added in front of the door U-value and SHGC requirements and in front of the window and skylight requirements in Exhibit 3.

To clarify which edition of the IRC is referenced in Footnote 7, the last paragraph has been revised to begin as follows: "An egress window, as defined in 2009 IRC section R310, shall refer to any operable window that provides for a means of escape and access for rescue in the event of an emergency."

To use the complete name for clarity, Footnote 10 has been revised as follows: "A completed and signed Indoor airPLUS Verification Checklist may be submitted in lieu of the Water Management System Builder Checklist. Indoor airPLUS is a complimentary EPA label recognizing new homes equipped with a comprehensive set of Indoor Air Quality (IAQ) features. Indoor airPLUS verification can be completed by a Rater during the ENERGY STAR verification process. For more information, see www.epa.gov/indoorairplus."

18. **Clarification – Footnote 9**

Footnote 9 has been revised to include Rating Field Inspectors in the list of parties that is encompassed by the term, "Rater". The revised language is as follows: "The term 'Rater' refers to the person completing the third-party inspections required for qualification. This party may be a certified Home Energy Rater, Rating Field Inspector, BOP Inspector, or an equivalent designation as determined by a Verification Oversight Organization such as RESNET."

19. **Clarification – Footnote 25**

The requirement that refrigerators, dishwashers, ceiling fans, and exhaust fans be ENERGY STAR qualified if installed has been refined to clarify that any such appliances must be qualified if installed; the requirement is not restricted to cases where all appliances are installed. The revised language is as follows: “This only applies where refrigerators, dishwashers, ceiling fans, or exhaust fans are installed. All exhaust fans shall be ENERGY STAR qualified, except in half bathrooms. A half bathroom is any bathroom that does not contain a bathtub, shower, spa, or similar source of moisture.”

ENERGY STAR County-Level Reference Design for Climate Zones 1-3

20. Refinement – Footnote 16

To better convey the intent of this footnote, the phrase “slab framing system” has been replaced with “floor assemblies” in Footnote 16. The revised language is as follows: “Insulation shall be verified by a Rater to achieve Grade I installation as defined in the RESNET Standards, except for ceiling, wall, and floor assemblies with continuous rigid insulation sheathing. For such homes, Grade II installation is acceptable for the cavity insulation only if the rigid insulation sheathing meets or exceeds the following levels: R-3 in Climate Zones 1 to 4; R-5 in Zones 5 to 8.”

21. Refinement – Exhibit 3, Footnote 17d

Partners have advised that this footnote referenced erroneous guidance contained in the 2009 IECC related to the UA calculation for a steel-frame envelope assembly. To correct this, the last sentence of Footnote 17d has been revised as follows: “The calculation for a steel-frame envelope assembly shall use the ASHRAE zone method or a method providing equivalent results, and not a series-parallel path calculation method.”

ENERGY STAR County-Level Reference Design for Climate Zones 4-8

22. Refinement – Footnote 15

To better convey the intent of this footnote, the phrase “slab framing system” has been replaced with “floor assemblies” in Footnote 15. The revised language is as follows: “Insulation shall be verified by a Rater to achieve Grade I installation as defined in the RESNET Standards, except for ceiling, wall, and floor assemblies with continuous rigid insulation sheathing. For such homes, Grade II installation is acceptable for the cavity insulation only if the rigid insulation sheathing meets or exceeds the following levels: R-3 in Climate Zones 1 to 4; R-5 in Zones 5 to 8.”

23. Refinement – Exhibit 3, Footnote 16d

Partners have advised that this footnote referenced erroneous guidance contained in the 2009 IECC related to the UA calculation for a steel-frame envelope assembly. To correct this, the last sentence of Footnote 16d has been revised as follows: “The calculation for a steel-frame envelope assembly shall use the ASHRAE zone method or a method providing equivalent results, and not a series-parallel path calculation method.”

ENERGY STAR County-Level Reference Design for Climate Zones 4-6

24. Refinement – Exhibit 3, Heating Equipment

The option to use an ENERGY STAR qualified air-source heat pump with electric backup, as defined in the National Program Requirements, was inadvertently omitted from these documents. This has been corrected. Footnote 13, which relates to air-source heat pump efficiency, has been moved to the applicable line related to air-source heat pumps with electric backup and now reads as follows: “The required efficiency for air source heat pumps in Climate Zones 4, 5, & 6 exceed the ENERGY STAR minimum of 8.2 HSPF.”

ENERGY STAR County-Level Reference Design for Climate Zone 4

25. Refinement – Exhibit 3

To correct misalignments with the National Program Requirements, revisions have been made to the window U-value, window SHGC, and cooling efficiency requirements as follows:

- “Windows: ≤ 0.32 U-Value; ≤ 0.40 SHGC”
- “If total window-to-floor area $>15\%$, then U-values or SHGCs adjusted as outlined in Footnote 19.”
- “Cooling equipment: ≥ 13 SEER AC; OR

- ≥ 8.5 HSPF / 14.5 SEER / 12 EER ENERGY STAR qualified air-source heat pump with electric backup;
OR
- ≥ 8.2 HSPF / 14.5 SEER / 12 EER ENERGY STAR qualified air-source heat pump with ENERGY STAR qualified dual-fuel backup; OR
- “Ground source heat pump, any product type, ENERGY STAR qualified.”

Inspection Checklists

26. **Clarification** – Page 1, Footnote 2

Footnote 2 has been revised to clarify that Rating Field Inspectors are permitted to verify items on the Inspection Checklists. The revised language is as follows: “The term ‘Rater’ refers to the person completing the third-party inspections required for qualification. This party may be a certified Home Energy Rater, Rating Field Inspector, BOP Inspector, or an equivalent designation as determined by a Verification Oversight Organization such as RESNET.”

27. **Change** – Page 1

EPA has revised the description of the use of sampling on the first page of the Inspection Checklists for the following reasons:

First, there is no effective oversight protocol or infrastructure available to provide sampling of these checklists. RESNET does not provide oversight to the work of builders or HVAC contractors.

Second, sampling was conceived as a means to streamline the process by which Raters verify that program requirements have been completed by the builder. That is to say, all homes must meet the program requirements, but verification of compliance is not required for every home if the sampling prerequisites have been met.

In contrast, with the HVAC System Quality Installation Contractor Checklist and Water Management System Builder Checklist, the person completing the work is permitted to be the same person verifying the work. For example, the HVAC technician that is installing and commissioning a split system AC unit is permitted to complete the relevant portions of the HVAC System Quality Installation Contractor Checklist. The same logic extends to the builder checklist. Therefore, no additional site visits should be required to complete these two Inspection Checklists. In fact, they can be completed by the person doing the work at the time that the work is done.

For these two reasons, EPA has removed the allowance to use a RESNET-approved sampling protocol to complete the HVAC System Quality Installation Contractor Checklist and Water Management System Builder Checklist. Sampling shall still be permitted for the Thermal Enclosure System Rater Checklist and for the HVAC System Quality Installation Rater Checklist.

The description of the use of sampling on the first page of the Inspection Checklists has been revised as follows: “The Thermal Enclosure System Rater Checklist and the HVAC System Quality Installation Rater Checklist shall be permitted to be completed for a batch of homes using a RESNET-approved sampling protocol. For example, if the approved sampling protocol requires verification of one in seven homes, then these two checklists shall be permitted to be completed for the sample set based upon the required verification of the one home. Sampling shall not be permitted to be used for the HVAC System Quality Installation Contractor Checklist or the Water Management System Builder Checklist. Instead, these two checklists shall be completed for each qualified home.”

28. **Clarification** – Footer on All Pages

The footer on each page of the Inspection Checklists states that Revision 04 is effective for homes permitted starting 10/01/2011. A footnote has been added to provide a definition of the word “permitted”. EPA’s policy is that the permit or contract date, along with the date of final inspection, determines the version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that either the permit date or the contract date should generally be available. However, in cases where the permit date or contract date is not available, Providers have discretion to estimate the permit date based on other construction schedule factors. These assumptions should be both defensible and documented.

The language in the footnote is as follows: “The Rater may define the ‘permit date’ as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.”

Thermal Enclosure System Rater Checklist

29. **Change – Item 2.1, Footnote 3d**

Footnote 3d has been revised to correct a minor typographical error in which “ASHRAE” was inadvertently referenced as “ASHAE”. Also, partners have advised that this footnote referenced erroneous guidance contained in the 2009 IECC related to the UA calculation for a steel-frame envelope assembly. To address these issues, the last sentence of Footnote 3d has been revised as follows: “The calculation for a steel-frame envelope assembly shall use the ASHRAE zone method or a method providing equivalent results, and not a series-parallel path calculation method.”

30. **Refinement – Section 3, Footnote 7**

For consistency, the language associated with EPA’s recommendation to include an interior air barrier at band joists in Climate Zones 4 through 8 has been refined.

31. **Change – Section 3, Item 3.1.3, Footnote 10**

The terms “sloped ceilings” and “sloped attics” were introduced with Revision 02 to help clarify the requirements for air barriers, but have not achieved EPA’s goal of improving clarity. To simplify the definitions of “sloped ceilings” and “sloped attics”, Footnote 10 has been revised as follows: “All insulated vertical surfaces are considered walls (e.g., exterior walls, knee walls) and must meet the air barrier requirements for walls. All insulated ceiling surfaces, regardless of slope (e.g., cathedral ceilings, tray ceilings, conditioned attic roof decks, flat ceilings, sloped ceilings), must meet the requirements for ceilings.”

The terms “sloped ceilings” and “sloped attics” have been removed from the program documents and Item 3.1.3 has been revised to only read: “Attic knee walls”.

The introductory block of Section 3 has been revised as follows:

“At each insulated location noted below, a complete air barrier shall be provided that is fully aligned with the insulation as follows:

- “At interior or exterior surface of ceilings in Climate Zones 1-3; at interior surface of ceilings in Climate Zones 4-8. Also, include barrier at interior edge of attic eave in all climate zones using a wind baffle that extends to the full height of the insulation. Include a baffle in every bay or a tabbed baffle in each bay with a soffit vent that will also prevent wind washing of insulation in adjacent bays
- “At exterior surface of walls in all climate zones; and also at interior surface of walls for Climate Zones 4-8
- “At interior surface of floors in all climate zones, including supports to ensure permanent contact and blocking at exposed edge.”

32. **Clarification – Item 3.2.3**

To clarify that an air barrier is required for insulated floors above all unconditioned crawlspaces, and not just vented crawlspaces, Item 3.2.3 has been revised as follows: “Floor above unconditioned basement or unconditioned crawlspace.”

33. **Change Item 4.2, Footnote 5**

To address partners’ challenges insulating 100% of the slab edge when the slab is on grade, the last sentence of Footnote 5 has been revised as follows: “Where specific details cannot meet this requirement, partners shall provide the detail to EPA to request an exemption prior to the home’s qualification. EPA will compile exempted details and work with industry to develop feasible details for use in future revisions to the program. A list of currently exempted details is available at: www.enegystar.gov/slabeledge”

The document referenced in the web link contains the current exemptions, which are as follows:

- Where a continuous post-tensioned slab extends from conditioned to unconditioned space (e.g., from conditioned space to an adjacent unconditioned hallway, to an unconditioned garage, to a porch), insulation is not required to be provided at this boundary to satisfy Item 4.2. This exemption applies to both multifamily and single-family homes.
- For a horizontal brick ledge of a monolithic slab, insulation is not required to satisfy the intent of Item 4.2. However, the vertical surface on either side of the ledge shall be insulated. Furthermore, floating slabs with brick ledges are not exempted because the insulation layer can be moved to the interior vertical surface of the foundation.

34. **Clarification – Item 4.4, Footnote 12, Footnote 13**

EPA's intended application of Item 4.4 was to above-grade walls separating conditioned space from unconditioned space, which will generally have a greater temperature differential than below-grade walls and common walls. To clarify the types of walls Item 4.4 refers to this item has been revised as follows: "Reduced thermal bridging at above-grade walls separating conditioned from unconditioned space (rim / band joists exempted) using one of the following options:"

Footnote 13 has been added to explain an exemption for mass walls used as part of a passive solar design and will read as follows:

"Mass walls utilized as the thermal mass component of a passive solar design (e.g., a Trombe wall) are exempt from this item. To be eligible for this exemption, the passive solar design shall be comprised of the following five components: an aperture or collector, an absorber, thermal mass, a distribution system, and a control system. For more information, see: http://www.energysavers.gov/your_home/designing_remodeling/index.cfm/mytopic=10270.

"Mass walls that are not part of a passive solar design (e.g., CMU block or log home enclosure) shall either utilize the strategies outlined in Section 4.4 or the pathway in the assembly with the least thermal resistance shall provide $\geq 50\%$ of the applicable component insulation requirement in the 2009 IECC – Table 402.1.1."

In addition, Footnote 12, which provides an exemption related to thermal bridging requirements, has been moved to Item 4.4 and has been revised to clarify that the exemption applies to any designed detail, but not to inadvertent thermal bridges (e.g., poorly installed insulation). The Footnote has been revised as follows: "Up to 10% of the total exterior wall surface area is exempted from the reduced thermal bridging requirements to accommodate intentional designed details (e.g., architectural details such as thermal fins, wing walls, or masonry fireplaces; structural details, such as steel columns). It shall be apparent to the Rater that the exempted areas are intentional designed details or the exempted area shall be documented in a plan provided by the builder, architect, designer, or engineer. The Rater need not evaluate the necessity of the designed detail to qualify the home."

35. **Refinement** – Item 4.4.1, Footnote 14

The terms "insulated siding" and "insulated sheathing" were inadvertently interchanged in prior revisions. To correct this, Footnote 14 has been revised as follows: "If used, insulated siding shall be attached directly over a water-resistive barrier and sheathing. In addition, it shall provide the required R-value as demonstrated through either testing in accordance with ASTM C 1363 or by attaining the required R-value at its minimum thickness. Insulated sheathing rated for water protection can be used as a water resistant barrier if all seams are taped and sealed. If non-insulated structural sheathing is used at corners, advanced framing details listed under Item 4.4.5 shall be met for those wall sections."

36. **Change** – Item 4.4.5b, Footnote 18

To address partners' challenges in meeting the R-5 insulation requirement for headers about windows and doors in 2x4 assemblies in Climate Zones 5-8, the beginning of Footnote 18 has been revised as follows: "Header insulation shall be $\geq R-3$ for wall assemblies with 2x4 framing, or equivalent cavity width, and $\geq R-5$ for all other assemblies (e.g., with 2x6 framing). Compliance options include continuous rigid insulation sheathing..."

37. **Refinement** – Item 5.2.7

The formatting and word choice for this item has been edited for improved clarity and layout.

HVAC System QI Contractor Checklist

38. **Refinement** – Header, Footnote 2

For improved clarity, removed from this footnote the example of "supplemental for excess loads" from the list of possible HVAC system locations or areas served.

39. **Clarification** – Item 1.1 through 1.5

To clarify that Items 1.2 through 1.5 are not intended to be options to use in place of Item 1.1, Item 1.1 has been revised as follows: "Ventilation system installed that has been designed to meet ASHRAE 62.2-2010 requirements including, but not limited to, requirements in Items 1.2-1.5."

40. **Change** – Section 2, Footnote 7

Footnote 7 and 18 from Revision 03 have been combined and revised to clarify certain aspects of the design requirements for homes with multiple configurations and to allow for some tolerance when designing duct systems in order to minimize the number of different duct designs that need to be managed for a single plan. Additionally,

the load calculation allowances for house plans with multiple configurations contained in Footnote 7 now includes a phase in period until December 31, 2012, where the configuration with the largest load is allowed to be used for equipment selection. On or after January 1, 2013, the largest load is only allowed to be used if the loads across all configurations vary by less than 25%. The revised Footnote is as follows:

“Heating and cooling loads shall be calculated, equipment shall be selected, and duct systems shall be sized according to the latest editions of ACCA Manuals J, S, & D, respectively, ASHRAE 2009 Handbook of Fundamentals, or a substantively equivalent procedure. The HVAC system design shall be completed for the specific configuration (e.g., plan, elevation, option, and orientation) of the home to be built except as permitted herein.

For homes with a date of final inspection through 12/31/2012:

For each house plan with multiple configurations (e.g., orientations, elevations, options), the loads shall be permitted to be calculated for the configuration that will result in the largest load. The largest load shall be permitted to be used for equipment selection for all configurations, subject to the over-sizing limits of ACCA Manual S.

For each house plan with multiple configurations, the room-level design airflows shall be permitted to be calculated using the configuration that resulted in the largest load.

For homes with a date of final inspection on or after 01/01/2013:

For each house plan with multiple configurations (e.g., orientations, elevations, options), the loads shall be calculated for each potential configuration. If the loads across all configurations vary by $\leq 25\%$, then the largest load shall be permitted to be used for equipment selection for all configurations, subject to the over-sizing limits of ACCA Manual S. Otherwise, the contractor shall group the load for each configuration into a set with $\leq 25\%$ variation and equipment selection shall be completed for each set of loads.

For each house plan with multiple configurations, the room-level design airflows shall be calculated for each potential configuration. If the design airflows for each room vary across all configurations by $\leq 25\%$ or 25 CFM, then the average room-level design airflow shall be permitted to be used when designing the duct system. Otherwise, the contractor shall group the room-level design airflow for each configuration into a set with $\leq 25\%$ or 25 CFM variation and the duct design shall be completed for the average airflow of that set.”

41. **Refinement** – Item 2.6, Footnote 9

To clarify which edition of the IRC is referenced in Footnote 9, the last paragraph has been revised to begin as follows: “An egress window, as defined in 2009 IRC section R310, shall refer to any operable window that provides for a means of escape and access for rescue in the event of an emergency.”

42. **Clarification** – Section 6

To better define the cold weather conditions for which a refrigerant test is not possible and promote consistent enforcement of the associated exemption, the note in Section 6 has been revised as follows: “Note: If outdoor ambient temperature at the condenser is $\leq 55^\circ\text{F}$ or, if known, below the manufacturer-recommended minimum operating temperature for the cooling cycle, then the system shall include a TXV, and the contractor shall mark “N/A” on the checklist for Section 6 & 7.”

43. **Change** – Section 8

The requirements in Section 8 have been simplified and clarified by listing only the two most common components (i.e., the evaporator/air handler fan and the condenser unit) and by only requiring that the amperage and line voltage values be measured and reported. The revised section is as follows:

“8. Electrical Measurements – *Taken at electrical disconnect while component is in operation*

“8.1 Evaporator / air handler fan: ___ amperage ___ line voltage

“8.2 Condenser unit: ___ amperage ___ line voltage

“8.3 Electrical measurements within OEM-specified tolerance of nameplate value”

44. **Refinement** – Item 10.1, Footnote 22

To align the explanation of the use of Opposable Blade Dampers (OBD) and dampers located in duct boots with the explanation in Footnote 10 of the HVAC System Quality Installation Rater Checklist, the last sentence of Footnote 22 has been revised as follows: “In such cases, Opposable Blade Dampers (OBD) or dampers located in the duct boot are permitted.”

45. **Change** – Item 10.2

Partners have observed that contractors need to provide the design flow rate for each supply register for Item 10.2 so that the Rater has the ability to verify that the proper free area opening has been provided for pressure balancing purposes. To reflect this change and clarify the parameters that must be included in a balancing report, Item 10.2 has been revised as follows: "Balancing report indicating, for each supply and return register: room name, design airflow, and final measured airflow."

46. **Clarification – Item 12.1**

To clarify that a drain pan is required for each piece of HVAC equipment that produces condensate, as opposed to having the contractor affirm just one per home, Item 12.1 has been revised as follows: "Corrosion-resistant drain pan, properly sloped to drainage system, included with each HVAC component that produces condensate."

HVAC System QI Rater Checklist

47. **Change – Item 1.2**

A footnote has been added to Item 1.2 that now includes a phase in period until December 31, 2012, where the design temperature is allowed to be within +/- 5 degrees of the 1% and 99% ACCA Manual J design temperatures. On or after January 1, 2013, Item 1.2.1 will be required to match the 1% and 99% ACCA Manual J design temperatures. The new footnote reads as follows:

"For homes with a date of final inspection through 12/31/2012: Item 1.2.1 is permitted to be within +/- 5 degrees of the 1% and 99% ACCA Manual J design temperatures for the contractor-designated design location. In addition, for each house plan with multiple configurations (e.g., orientations, elevations, options), the Rater shall confirm that the parameters listed in Items 1.2.2 to 1.2.6 are aligned with either: the rated home, or with the plans for the configuration used to calculate the loads, as provided by the contractor.

"For homes with a date of final inspection on or after 01/01/2013: Item 1.2.1 shall match the 1% and 99% ACCA Manual J design temperatures for the contractor-designated design location. In addition, for each house plan with multiple configurations (e.g., orientations, elevations, options), the Rater shall confirm that the parameters listed in Items 1.2.2 to 1.2.6 are aligned with the rated home."

48. **Change – Item 2.8**

A footnote has been added to Item 2.8 that now includes a phase in period until December 31, 2012, where Item 2.8 will not be enforced as additional time is needed for architects and designers to adopt the practice. On or after January 1, 2013, Item 2.8 will be required to be completed for the home to qualify. The new footnote reads as follows:

"For homes with a date of final inspection through 12/31/2012: Homes are permitted to be qualified without enforcement of this item to provide architects and designers with additional time to integrate these features into their homes.

"For homes with a date of final inspection on or after 01/01/2013: Homes shall meet this item to be qualified."

49. **Clarification – Section 3, Footnote 12**

In order to eliminate the apparent contradiction between Section 3 and Footnote 12, Footnote 12 has been revised to read as follows: "EPA recommends, but does not require, that all metal ductwork not encompassed by Section 3 (e.g., exhaust ducts, duct boots, ducts in conditioned space) also be insulated and that insulation be sealed to duct boots to prevent condensation."

50. **Change – Item 6.2, Footnote 1**

A footnote has been added to Item 6.2 to provide an exemption for this test when the outdoor temperature is below a specific threshold to prevent possible equipment damage. The new footnote will read as follows: "To prevent potential equipment damage, the Rater shall not conduct this test if the outdoor temperature is $\leq 55^{\circ}\text{F}$ or, if known, below the manufacturer-recommended minimum operating temperature for the cooling cycle. When this occurs, the Rater shall mark 'N/A' on the checklist for this item."

51. **Clarification – Item 6.5**

To clarify that labeling of bathroom exhaust fan controls is not required, Item 6.5 has been revised as follows: "Function of ventilation controls is obvious (e.g., bathroom exhaust fan) or, if not, controls have been labeled."

52. **Change – Item 7.2, Footnote 20**

In response to historical snowfall data submitted by partners in North Carolina, a new footnote has been added permitting lower minimum required ventilation air inlet heights in Climate Zones 4 and 5 in North Carolina. The new footnote reads as follows: "EPA will permit the use of reduced ventilation air inlet heights in North Carolina. The minimum required height in North Carolina for Climate Zone 4 will be reduced from 4 feet to 2 feet and in Climate Zone 5 from 4 feet to 2.5 feet based on historical snowfall data for this state. Note that EPA is evaluating the potential to reduce inlet heights in other regions based upon historical snowfall data."

53. **Clarification – Section 8**

To clarify that exhaust fans must be installed to satisfy the intent of Section 8, Section 8 has been revised as follows: "In each kitchen and bathroom, a system shall be installed that exhausts directly to the outdoors and meets one of the following Rater-measured airflow standards."

54. **Clarification – Section 9, Footnote 28**

To clarify that a remote-mounted fan must be located outside of habitable spaces AND have ≥ 4 ft. ductwork between the fan and intake grill, Footnote 28 has been revised as follows: "Fans exempted from this requirement include HVAC air handlers and remote-mounted fans. To be considered for this exemption, a remote-mounted fan must be mounted outside the habitable spaces, bathrooms, toilets, and hallways and there shall be ≥ 4 ft. ductwork between the fan and intake grill. Per ASHRAE 62.2-2010, habitable spaces are intended for continual human occupancy; such space generally includes areas used for living, sleeping, dining, and cooking but does not generally include bathrooms, toilets, hallways, storage areas, closets, or utility rooms."

55. **Clarification – Item 10.1, Footnote 29**

To improve clarity, the phrase "atmospherically vented equipment" has been replaced with the phrase "naturally drafted equipment"

For further clarification, a definition of this term has been added to Footnote 29, which reads as follows:

"Per the 2009 International Mechanical Code, a direct-vent appliance is one that is constructed and installed so that all air for combustion is derived from the outdoor atmosphere and all flue gases are discharged to the outside atmosphere; a mechanical draft system is a venting system designed to remove flue or vent gases by mechanical means consisting of an induced draft portion under non-positive static pressure or a forced draft portion under positive static pressure; and a natural draft system is a venting system designed to remove flue or vent gases under nonpositive static vent pressure entirely by natural draft."

Partners have also asked which specific combustion safety tests are required to be performed in homes with a natural draft combustion appliance inside the pressure boundary. To clarify which tests are required, Item 10.1 has been revised as follows:

"Furnaces, boilers, and water heaters located within the home's pressure boundary are mechanically drafted or direct-vented. As an exception, naturally drafted equipment is allowed in Climate Zone 1-3. For naturally drafted furnaces, boilers, and water heaters, the Rater has followed RESNET or BPI combustion safety test procedures and met the selected standard's limits for depressurization, spillage, draft pressure, and CO concentration in ambient air, as well as a CO concentration in the flue of ≤ 25 ppm."

56. **Clarification – Item 10.2, Footnote 31**

The second option provided in Item 10.2 to evaluate the likelihood that a fireplace will backdraft in a home has been revised to clarify specific test procedures that meet the intent of this option. Also, the net change in pressure within the combustion zone between the baseline and worst-case depressurization conditions has also been clarified. The revised language is as follows:

"For fireplaces that are not mechanically drafted or direct-vented to outdoors, total net rated exhaust flow of the two largest exhaust fans (excluding summer cooling fans) is ≤ 15 CFM per 100 sq. ft. of occupiable space when at full capacity or the Rater has verified that the pressure differential is ≤ -5 Pa using BPI's or RESNET's worst-case depressurization test procedure."

For further clarification the following sentence has been added to Footnote 31: "If using RESNET's protocol to evaluate fireplaces, per Item 10.2, the blower door will not be set to exhaust 300 CFM to simulate the fireplace in operation. The remainder of the protocol for determining worst-case depressurization shall be followed."

57. **Clarification – Item 10.3**

To clarify which test procedures are required for unvented combustion appliances, Item 10.3 has been revised as follows: "If unvented combustion appliances other than cooking ranges are located inside the home's pressure

boundary, the Rater has operated the appliance for at least 10 minutes and verified that the ambient CO level does not exceed 35 ppm.”

Water Management System Builder Checklist

58. **Change** – Item 1.2, Footnote 4

Item 1.2 has been simplified by moving all permitted alternatives to tamping into the footnote as follows: “Back-fill has been tamped and final grade sloped \geq 0.5 in. per ft. away from home for \geq 10 ft. See footnote for alternatives.”

In addition, some partners have indicated that rather than tamping back-fill to prevent settling, they schedule a site visit after the close of the home to evaluate settling conditions, provide in-fill as needed, and complete final grading. Footnote 4 has been revised to allow for this technique. The revised Footnote is as follows: “Where setbacks limit space to less than 10 ft., swales or drains designed to carry water from foundation shall be provided. Also, tamping of back-fill is not required if either: proper drainage can be achieved using non-settling compact soils, as determined by a certified hydrologist, soil scientist, or engineer; OR, the builder has scheduled a site visit to provide in-fill and final grading after settling has occurred (e.g., after the first rainy season).”

59. **Change** – Item 1.3, Footnote 5

The explicit requirement for a drainage layer of aggregate or sand with geotextile matting has been removed from Item 1.3 in recognition of the many successful alternative building practices employed around the country. The revised Item 1.3 is as follows: “Capillary break beneath all slabs (e.g., slab on grade, basement slab) except crawlspace slabs using either: \geq 6 mil polyethylene sheeting, lapped 6-12 in., or \geq 1” extruded polystyrene insulation with taped joints.”

Separately, partners have offered the feedback that radon mitigation systems that do not include polyethylene sheeting can be effective, but that EPA’s requirement for polyethylene sheeting would prevent homes with such systems from qualifying. To eliminate this unintended barrier to implementation, Footnote 5 has been revised as follows: “Polyethylene sheeting is not required in Dry (B) climates as shown in 2009 IECC Figure 301.1 and Table 301.1. Polyethylene sheeting is also not required for raised pier foundations with no walls. To earn the ENERGY STAR, EPA recommends, but does not require, that radon-resistant features be included in homes built in EPA Radon Zones 1, 2 and 3. For more information, see www.epa.gov/indoorairplus.”

60. **Refinement** – Item 1.4

For improved clarity, the layout of this item has been revised to emphasize that \geq 6 mil polyethylene sheeting, lapped 6-12 in., is required and must be installed using one of three options.

61. **Refinement** – Item 1.6, Footnote 6

This footnote includes a sentence to clarify that Class I vapor retarders can be used on the interior side of walls if air permeable insulation is not present and provides an example of such a scenario. This scenario has been refined by referencing generic “foil-faced rigid foam”, rather than referencing “foil-faced expanded polystyrene rigid insulation”.

62. **Clarification** – Item 2.3, Footnote 9

Item 2.3 is intended to help minimize the potential for water damage by fully flashing the windows. This includes applying the pan flashing over the rough sill framing, inclusive of the corners of the sill framing. Therefore, the American Architectural Manufacturers Association’s Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction document does not meet the intent of Item 2.3. This is because the document does not require the pan flashing to be applied over the rough sill framing.

To clarify the intent of Item 2.3, Footnote 9 has been revised as follows: “Apply pan flashing over the rough sill framing, inclusive of the corners of the sill framing; side flashing that extends over pan flashing; and top flashing that extends over side flashing.”

ENERGY STAR HERS Index Target Procedure

63. **Clarification** – Footer on All Pages

The footer on each page of the ENERGY STAR HERS Index Target Procedure states that Revision 04 is effective for homes permitted starting 10/01/2011. A footnote has been added to provide a definition of the word “permitted”. EPA’s policy is that the permit or contract date, along with the date of final inspection, determines the

version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that either the permit date or the contract date should generally be available. However, in cases where the permit date or contract date is not available, Providers have discretion to estimate the permit date based on other construction schedule factors. These assumptions should be both defensible and documented.

The language in the footnote is as follows: “The Rater may define the ‘permit date’ as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.”

64. **Change – Step 2, Footnote 1**

EPA will now allow all bedrooms in the home, regardless of location, to be counted when determining the Benchmark Home Size. This change will prevent the application of a significant Size Adjustment Factor for homes with the majority of bedrooms located in the basement.

This policy change will result in the same or less stringent target for all partners. Note that no change is being made to EPA’s policy of excluding floor area in basements with at least half of the gross surface area of the exterior walls below grade. That is to say, floor area in basements with at least half of the gross surface area of the basement’s exterior walls below grade shall not be counted when determining a home’s Benchmark Home Size, Size Adjustment Factor, and eligibility to use the Prescriptive Path.

In addition to this policy change, guidance for homes with no bedrooms has been moved from the footnote into the main body of the document.

To reflect these changes, the last paragraph of step 2 has been revised as follows:

“For the purposes of this step, calculate the number of bedrooms and the CFA of the home to be built using RESNET standards with the following exception: floor area in basements with at least half of the gross surface area of the basement’s exterior walls below grade shall not be counted. If a home has zero bedrooms with regard to the Benchmark Home Size determination, then the Benchmark Home Size for one bedroom shall be used. If the CFA of the home to be built exceeds the CFA of the Benchmark Home, then the Performance Path shall be used. Because the SAF cannot exceed 1.0, it only modifies the HERS Index Target for homes with conditioned floor area greater than the Benchmark Home. For condos and apartments in multi-family buildings the SAF shall always equal 1.0.”

In addition, partners have expressed difficulty determining the percentage of gross basement wall area that is below grade when walls are not in contact with either the ground or outdoor ambient air. EPA intended to exclude walls that are not in contact with either the ground or outdoor ambient air because of this challenge. Footnote 1 has been revised as follows to clarify this intent:

“To determine whether at least half of the basement wall area is below grade, use the gross surface area of the walls that are in contact with either the ground or ambient outdoor air, measured from the basement floor to the bottom of the basement ceiling framing (e.g., the bottom of the joists for the floor above). Note that the exception regarding the floor area in basements is only for the purpose of determining a home’s Benchmark Home Size, Size Adjustment Factor, and eligibility to use the Prescriptive Path. The full conditioned floor area, per RESNET’s standards, should be used when rating the home (e.g., determining compliance with duct leakage requirements).”

65. **Refinement – Exhibit 1, Footnote 2**

To clarify which edition of the IRC is referenced in Footnote 2, the last paragraph has been revised to begin as follows: “An egress window, as defined in 2009 IRC section R310, shall refer to any operable window that provides for a means of escape and access for rescue in the event of an emergency.”

66. **Refinement – Exhibit 2**

Partners have noted that references in this document to unvented crawlspaces and to crawlspace wall insulation are irrelevant. This is because the Expanded ENERGY STAR Reference Design Definition requires that, for homes with crawlspace foundations, the crawlspace conditioning type always be vented and therefore configured with floor insulation.

To improve clarity, references to unvented crawlspaces and crawlspace wall insulation have been removed from the Foundations section of Exhibit 2. The line item listing Crawlspace Wall Assembly U-Factor values has been deleted. The first bullet in the Foundation section has been revised as follows: “Basement Wall Assembly U-factor only applies to conditioned basements; if applicable, insulation shall be located on interior side of walls.” A new bullet has been added that reads as follows: “Floor assemblies above crawlspace foundations shall be configured

to meet the applicable floor assembly U-factor listed in the building component section for Floors over Unconditioned Spaces”.

The Doors section of Exhibit 2 has also been revised to correct an erroneous row title. The first boldface row of the list of door U-Values and SHGCs is now entitled, “Door Type”.

Version 2.5 National Program Requirements

67. Clarification – Footer on All Pages

The footer on each page of the Version 2.5 National Program Requirements states that Revision 04 is effective for homes permitted starting 10/01/2011. A footnote has been added to provide a definition of the word “permitted”. EPA’s policy is that the permit or contract date, along with the date of final inspection, determines the version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that either the permit date or the contract date should generally be available. However, in cases where the permit date or contract date is not available, Providers have discretion to estimate the permit date based on other construction schedule factors. These assumptions should be both defensible and documented.

The language in the footnote is as follows: “The Rater may define the ‘permit date’ as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.”

68. Refinement – Exhibit 1

The requirement that, under the Prescriptive Path, refrigerators, dishwashers, ceiling fans, and exhaust fans be ENERGY STAR qualified if installed has been refined to clarify that any such appliances must be qualified if installed; the requirement is not restricted to cases where all appliances are installed. The revised language is as follows: “Where refrigerators, dishwashers, ceiling fans, or exhaust fans are installed, products shall be ENERGY STAR qualified.”

The Version 2 HERS Scoring Limitations have been aligned with terminology used in other program documents. The revised language is as follows:

“Up to 20% of screw-in light bulb sockets may use CFLs to achieve HERS Index target.

“On-site power may not be used to achieve HERS Index target.”

Finally, the Version 3 Inspection Checklists explanation has been revised to use the complete name of the Thermal Enclosure System Rater Checklist. The revised language is as follows:

“All sections of all Version 3 inspection checklists enforced. Builder may verify up to eight (8) items of the Thermal Enclosure System Rater Checklist.”

69. Change – Exhibit 2

The implementation schedule in Exhibit 4 has been revised to enable partners to take full advantage of the transitional Version 2.5 guidelines and to successfully implement the Version 3 guidelines. Homes permitted before January 1, 2012 can be qualified under Version 2.5 through June 30, 2012. Homes permitted beginning January 1, 2012 still must be qualified under Version 3.

70. Clarification – Exhibit 2

Footnote 2 to Exhibit 2 has been revised to accommodate partners that cannot determine either the permit date or the date of the contract for the home to be qualified. EPA’s policy is that the permit or contract date, along with the date of final inspection, determines the version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that either the permit date or the contract date should generally be available. However, in cases where the permit date or contract date is not available, Providers have discretion to estimate the permit date based on other construction schedule factors. These assumptions should be both defensible and documented.

The revised language is as follows: “The Rater may define the ‘permit date’ as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.”

71. Refinement – Entire Document

Various grammatical and capitalization changes were made for consistency. In addition, the date in the header has been removed and the revision date has been added to the footer for consistency with other program documents.