

ENERGY STAR Qualified Homes Policy Record

How to Use This Document

EPA regularly receives partner questions and comments regarding various aspects of the program documents. This document is a record of the issues that have been received since the release of the last revision to the program documents. These issues are either pending resolution by EPA or have been resolved, sometimes resulting in modifications that will be incorporated into the next revision of the program documents. The primary purpose of this document is to allow all partners to have equal access to the latest policy issues and resolutions.

For Version 2.5 and Version 3, EPA intends to formally incorporate policy modifications into the next revision of the program documents. Those edits will then be enforced for homes permitted after a specified transition period, typically 60 days from the release of the revised guidelines. Partners may, at their discretion, use the determinations in this document immediately, in advance of the formal implementation dates. If they do so, they should be sure to document the permit dates of the affected homes and to include a copy of the policy record in the files retained by the Home Energy Rater. Should the need arise, this will allow partners to demonstrate that they acted with the best information available.

Definitions

Each issue listed here is classified as a Change, Clarification, Refinement, Comment, or as an Issue Under Review. 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.
- *Comment* – A comment provided by EPA in response to a question, which results in no change to the program documents. This may occur, for example, if the question can be answered by referring to already established policy. Aside from the partner asking the question, such comments will typically have no impact on the way that partners comply with the program.
- *Issue Under Review* – An issue that has been submitted and that EPA is still evaluating. Once EPA has evaluated the issue, it will offer a resolution and reclassify the issue using one of the four categories above.

ENERGY STAR Qualified Homes Policy Record

ID	Log Date	Program Document	Classification	Topic
00001	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Change	<p data-bbox="882 263 2003 295">Program eligibility– Harmonizing requirements with Multifamily High-Rise Program</p> <p data-bbox="882 302 2003 399">Issue: EPA has recently launched its ENERGY STAR Multifamily High Rise Program. The eligibility requirements of the ENERGY STAR for New Homes Program need to be harmonized with the eligibility requirements of that new program.</p> <p data-bbox="882 406 2003 470">Resolution: The eligibility requirements on page one of the National Program Requirements will be revised as follows:</p> <p data-bbox="932 477 2003 542">“To earn the ENERGY STAR under the Version 3 Guidelines, homes must be one of the following:</p> <ul data-bbox="982 548 2003 815" style="list-style-type: none"> • “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. <p data-bbox="932 821 2003 886">“Units in multifamily buildings that are not eligible for the ENERGY STAR through the New Homes program may be eligible to qualify through the Multifamily High Rise Program.</p> <p data-bbox="882 893 1394 919">The associated footnotes will be as follows:</p> <ol data-bbox="932 925 2003 1396" style="list-style-type: none"> 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, <i>but where dwelling units occupy less than 80% of the residential (i.e.,</i>

ENERGY STAR Qualified Homes Policy Record

				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.”
00002	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Comment	Program eligibility– Access to thermostats in multifamily units
				Issue: One eligibility requirement for units in multifamily buildings with 4 or 5 stories above-grade is that they must have their own heating, cooling, and hot water systems, separate from other units. Partners have asked whether HVAC thermostats for these units and for multifamily units in general must be accessible to occupants, or if they can be accessible only to the property owner.
				Response: The program does not impose any requirements related to HVAC thermostat access. However, if a continuously-operating ventilation or exhaust fan is present, note that ASHRAE 62.2-2010 and Item 6.4 of the HVAC System Quality Installation Rater Checklist do require that override controls be readily accessible to the occupant.
00003	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Comment	Program eligibility – Qualifying existing homes
				Issue: Partners have asked if existing homes can earn the ENERGY STAR through renovations.
				Response: Existing homes can earn the ENERGY STAR, but they must fulfill all requirements; no requirements are waived.
00004	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Clarification	Prescriptive Path – Determining gross basement wall area
				Issue: 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. This occurs, for example, when a wall separates the basement spaces of adjacent townhome units.
				Response: EPA intended to exclude walls that are not in contact with either the ground or outdoor ambient air because of the difficulty of determining the area of the above-grade and below-grade portions of those walls. The beginning of Footnote 3 will be revised to read as follows: “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).”
00005	07/25/2011	National Program Requirements	Change	Prescriptive Path – Basement exclusion from Size Adjustment Factor
				Issue: Partners have asked EPA to allow bedrooms in basements to be included when

ENERGY STAR Qualified Homes Policy Record

		(Version 3, Rev. 03)		<p>determining the Benchmark Home Size. In the rare instances where the majority of bedrooms in a home are located in the basement, excluding these bedrooms can result in the application of a significant Size Adjustment Factor, resulting in a meaningfully more stringent ENERGY STAR HERS Index Target.</p> <p>Response: To eliminate this hardship for these homes, EPA will now allow all bedrooms in the home to be counted when determining the Benchmark Home Size, regardless of location.</p> <p>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.</p> <p>The National Program Requirements will be revised as follows:</p> <p>"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 the CFA of the home to be built exceeds the CFA of the Benchmark Home, then the Performance Path shall be used.</p> <p>"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 this change 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).</p> <p>"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."</p>
00006	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Comment	<p>Prescriptive Path – Lack of availability of right-sized equipment with required efficiency</p> <p>Issue: Partners have asked what to do when there are no HVAC equipment models available that meet both the right-sizing and efficiency requirements of the Prescriptive Path.</p> <p>Resolution: All homes qualified under the Prescriptive Path must use equipment that meets both the prescriptive efficiency levels defined in the ENERGY STAR Reference Design and the right-sizing requirements of the HVAC System Quality Installation Contractor Checklist. If both requirements could not be met, then the home would need to pursue qualification using the Performance Path instead, where lower equipment efficiency is permitted. EPA may consider</p>

ENERGY STAR Qualified Homes Policy Record

				developing an additional prescriptive path option in the future to accommodate small homes, which benefit less from high-efficiency HVAC systems.
00007	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Refinement	Prescriptive Path – Errata
				Issue: EPA has identified a minor typographical error in Step 1 of the Prescriptive Path in the National Program Requirements: “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.”
				Resolution: Step 1 of the Prescriptive Path will be 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.”
00008	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Issue Under Review	Performance Path – Modeling requirements for multifamily buildings
				Issue: Partners have asked if each unit in a multifamily building must be modeled, or if either the entire building as a whole or some subset of units can be modeled under the Performance Path. Partners have also asked what HERS Index should be assigned to units that are not modeled, if it is acceptable to not model each unit.
				Response: [Issue under review.]
00009	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Comment	Performance Path – Modeling uncommon technologies
				Issue: Partners have asked how to model less common technologies when calculating a home’s HERS Index (e.g., wood fired boilers, drain water heat recovery, evaporative coolers).
				Response: For partners that wish to use innovative technologies to improve the HERS index (e.g., to meet the ENERGY STAR HERS Index Target), EPA recommends that they submit an Innovative Design Request (IDR) to the RESNET Technical Subcommittee. In contrast, for partners that wish to use an innovative technology for a purpose other than to improve the HERS index (e.g., an alternate approach to meeting a detail on one of the inspection checklists), the partner shall first consult their Rater. In the event that a Rater is not able to determine whether the approach is consistent with the intent then the Rater shall consult their Provider. If the Provider also cannot make this determination, then the Rater or Provider shall report the issue to EPA prior to project completion at: energystarhomes@energystar.gov.
00010	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Comment	Performance Path – Requirement to use compact fluorescent lights
				Issue: Partners have asked if there is a minimum requirement for installing compact fluorescent lights (CFLs) to qualify a home under the Performance Path of ENERGY STAR Version 2.5 and Version 3.
				Resolution: When using the Performance Path to qualify a home under Version 2.5 or Version

ENERGY STAR Qualified Homes Policy Record

				<p>3, there is no minimum requirement for CFL installation. However, the home must meet the ENERGY STAR HERS Index Target, which is calculated using a reference design home with 80% efficient lighting as described in the Expanded ENERGY STAR Reference Design Definition. Therefore, if the percentage of CFLs in the home is lower than the percentage of CFLs in the Reference Design Definition, the home will likely need other efficiency improvements to achieve the HERS Index Target required for qualification.</p>
00011	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Comment	<p>Performance Path – Determining dishwasher efficiencies</p>
				<p>Issue: Partners have asked how to find the Energy Factor (EF) of a dishwasher in order to model it under the Performance Path.</p>
				<p>Resolution: If an ENERGY STAR qualified dishwasher is installed and the model number is known, then the EF of the dishwasher can be found in the Qualified Product List on the ENERGY STAR qualified products website at the following link: http://www.energystar.gov/index.cfm?fuseaction=dishwash.search_dishwashers. If the EF cannot be determined from the Qualified Products List, the Rater should follow the guidance on minimum rated features provided in the RESNET 2006 Mortgage Industry National Home Energy Rating Standard, available at the following link: http://www.resnet.us/standards.</p>
00012	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Clarification	<p>Exhibit 4, Footnote 2 – Definition of permit dates</p>
				<p>Issue: Partners have asked if Providers can assign deemed permit dates to a home when they cannot determine either the permit date or the date of the contract.</p>
				<p>Response: EPA’s policy is that the permit or contract date determines the version of the ENERGY STAR guidelines a home is eligible to be qualified under. EPA believes that one of these two dates 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. Footnote 2 will be revised to read 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 were 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.”</p>
00013	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Clarification	<p>Exhibit 4, Footnote 3 – Timeline for low-income projects</p>
				<p>Issue: Partners have asked EPA to clarify several aspects of the extended Version 2 timeline for low-income projects financed through low-income housing agencies, including the following:</p> <ul style="list-style-type: none"> • What kind of organization qualifies as a “low-income housing agency”?

ENERGY STAR Qualified Homes Policy Record

				<ul style="list-style-type: none"> • What kind of financial support qualifies as “funding”? • How should builders and developers document when funding applications are received by funding agencies? • What is the overall intent of the extended Version 2 timeline for this kind of project? <p>Response: By "low-income housing agency," EPA means any entity that provides public funding to nonprofit builders and developers for the construction of housing projects specifically for low-income tenants.</p> <p>By "funding," EPA means public funding such as public grants or Low Income Housing Tax Credit (LIHTC) funds. The funding must be critical to the project financing, such as financing land acquisition, infrastructure, or construction. Funding intended for noncritical activities, such as for providing mortgage financing to homebuyers, does not qualify for the extended timeline.</p> <p>It is the responsibility of the funding applicant (the developer and builder) to keep on file written proof that they applied for public funds for use in constructing a low-income housing project to be ENERGY STAR qualified under Version 2. This documentation should identify the funding agency and the date when the funding application was received by the funding agency. This could be a copy of the funding application itself that has been date stamped by the funding agency. If there is no documentation that indicates when the funding application was received by the funding agency, there should at least be documentation that indicates when the funding application was sent to the funding agency by the funding applicant. It is the responsibility of the developer and builder to make this documentation available to the Rater (as well as to EPA upon request) so the Rater can verify whether or not the housing project qualifies for this exemption to the national Version 3 implementation timeline. Also, the builder or developer is responsible for providing to the Rater (as well as EPA upon request) a copy of documentation that shows that the funding was awarded prior to completion of the housing project.</p> <p>The intent of the low-income housing exemption to the national Version 3 implementation timeline is to give nonprofit low-income housing builders and developers additional time to build homes to earn the ENERGY STAR label under Version 2 with the understanding that low-income housing projects typically require some form of public funding in order to be constructed and that the process for obtaining public funding typically adds time to the build-out timeline. EPA decided to provide this exemption based on when the funding application was received as opposed to when the application was approved or when funding was actually received in order to avoid penalizing nonprofit low-income housing developers and builders for delays caused by the funding agency in reviewing and approving funding applications.</p>
00014	07/25/2011	National Program Requirements (Version 3, Rev. 03)	Refinement	Footnote 8 – Slab framing systems
				Issue: Partners have asked EPA to define the phrase “slab framing system” in Footnote 8.
				Response: Footnote 8 will be revised to read as follows: “Insulation shall be verified by a Rater

ENERGY STAR Qualified Homes Policy Record

				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.”
00015	07/25/2011	Inspection Checklists (Version 3, Rev. 03)	Clarification	Verification by Rating Field Inspectors
				Issue: Partners have asked if Rating Field Inspectors are permitted to verify items on the Inspection Checklists and, if so, whether there are any restrictions on the items that they can verify.
				Resolution: Rating Field Inspectors are allowed to verify any item on the ENERGY STAR Inspection Checklists that Raters are allowed to verify. Through RESNET, Home Energy Raters and Rating Field Inspectors receive equivalent training with regards to field inspections. Therefore, they are both qualified to verify items on the Inspection Checklists. Footnote 2 of the Inspection Checklist cover page will be revised 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, a certified Rating Field Inspector, BOP Inspector, or an equivalent designation as determined by a Verification Oversight Organization such as RESNET.”
00016	07/25/2011	Inspection Checklists (Version 3, Rev. 03)	Change	Sampling verification of Inspection Checklists
				Issue: Partners have asked EPA to clarify how the HVAC System Quality Installation Contractor Checklist and Water Management System Builder Checklist can be sampled using a RESNET-approved protocol given that RESNET does not provide oversight of builders or HVAC contractors.
				Response: EPA will revise the first page of the Inspection Checklists to require that the HVAC System Quality Installation Contractor Checklist and Water Management System Builder Checklist be completed for each qualified home. EPA will make this change for several 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

ENERGY STAR Qualified Homes Policy Record

				<p>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.</p> <p>For these two reasons, EPA will be removing 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.</p> <p>The description of the use of sampling on the first page of the Inspection Checklists will be 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 to qualify homes as ENERGY STAR. For example, if the approved sampling protocol requires rating one in seven homes, then these two checklists shall be permitted to be completed for the one required rating. Sampling shall not be used for the HVAC System Quality Installation Contractor Checklist or the Water Management System Builder Checklist. Instead, these two checklists must be completed for each qualified home."</p>
00017	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Issue Under Review	<p>Use of infrared thermography</p> <p>Issue: Partners have asked if infrared thermography can be used to complete the Thermal Enclosure System Rater Checklist.</p> <p>Response: [Issue under review.]</p>
00018	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Section 1 – Applicability of requirements to historic buildings</p> <p>Issue: Partners have asked if historic buildings being renovated must comply with Items 1.1 and 1.2 or if exceptions will be made similar to those in Item 101.4.2 of the 2009 IECC.</p> <p>Resolution: Historically, EPA has allowed retrofit projects to earn the ENERGY STAR if all requirements have been met. This policy has not changed. Retrofits must meet all requirements of the guidelines to earn the ENERGY STAR.</p>
00019	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Section 2 – Use of bagged batts to meet quality installed insulation requirements</p> <p>Issue: Partners have asked whether bagged batts (fiberglass batts encapsulated in perforated plastic) are acceptable for insulating basement and crawlspace walls.</p> <p>Resolution: From a thermal perspective, this section does not impose any restrictions on using bagged batts. Note though that Item 1.6 of the Water Management System Builder Checklist requires that class 1 vapor retarders not be installed on the interior side of air</p>

ENERGY STAR Qualified Homes Policy Record

				permeable insulation in exterior below-grade walls. As long as the plastic used is not a class 1 vapor retarder, then the bagged batts are permitted to be used. Reference Footnote 6 of the Water Management System Builder Checklist for further information on class 1 vapor retarders.
00020	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	Section 2 – Options to meet floor insulation requirements in space-constrained cavities
				Issue: Partners have asked how to meet the floor insulation requirements when space constraints exist, such as ductwork located in the floor cavity. Partners have also asked whether the insulation on the ductwork is permitted to contribute to the required floor insulation.
				Resolution: The R-value of floor insulation can be reduced in cavities where space constraints exist, such as ductwork located in the floor cavity. However, an alternative equivalent U-factor or total UA calculation shall be used to demonstrate compliance with Item 2.1, the insulation installation shall be Grade I (or Grade II for surfaces with insulated sheathing), and an air barrier shall be fully aligned with the insulation at the interior surface of the floor, including supports to ensure permanent contact and blocking at exposed edges. The insulation on the ductwork is permitted to be accounted for when determining compliance with the item.
00021	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	Item 2.1 – Allowance of partially uninsulated assemblies
				Issue: Partners have asked if some areas of ceiling, wall, or floor assemblies could be left uninsulated as long as the total UA met the 2009 IECC requirements.
				Resolution: The intent of Item 2.1 is to ensure that the overall thermal envelope of the home meets or exceeds the insulation level requirements of the 2009 IECC, as demonstrated by using the prescriptive R-values, an alternative equivalent U-factor calculation, or an alternative equivalent total UA calculation. Therefore, it is possible for homes with partially uninsulated assemblies to meet the intent of this item. However, note that the intent of Section 4 of this checklist is to reduce thermal bridging. It imposes minimum insulation levels for several areas of the thermal envelope and reduced thermal bridging requirements for above-grade walls separating conditioned from unconditioned space. These requirements must also be met for every qualified home. Therefore, while Version 3 does not explicitly require that all areas of the thermal enclosure be insulated to qualify the home, the builder must meet the requirements of Item 2.1 and Section 4. Furthermore, EPA recommends, but does not require, that all areas of the thermal enclosure be insulated to help minimize thermal bypasses and improve occupant comfort.
00022	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Change	Footnote 3 – Insulation levels for steel-frame assemblies
				Issue: Partners have advised that the checklist references erroneous guidance contained in the 2009 IECC related to the UA calculation for a steel-frame envelope assembly. Additionally, EPA has identified a minor typographical error in Footnote 3d. The footnote refers to the American Society of Heating, Refrigeration, and Air-Conditioning Engineers as “AHRAE”.

ENERGY STAR Qualified Homes Policy Record

				<p>Resolution: Footnote 3d has been revised to read 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."</p>
00023	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Footnote 3 – Methods for demonstrating compliance with insulation requirements</p>
				<p>Issue: Partners have asked for guidance about the three options available for demonstrating compliance with Item 2.1.</p>
				<p>Resolution: Item 2.1 requires that ceiling, wall, floor, and slab insulation levels meet or exceed the 2009 IECC. There are three different ways to demonstrate compliance with this requirement:</p> <ol style="list-style-type: none"> 1. Use the prescriptive R-values in Table 402.1.1 of the 2009 IECC. 2. Use an alternative equivalent U-factor calculation. This approach accounts for all components in the assembly, such as drywall thickness, framing fraction, cavity insulation, and sheathing. Strategies such as increasing the framing spacing, adding insulated sheathing, and increasing the drywall thickness can all be used towards meeting the assembly U-factor. An assembly with a U-factor equal or less than specified in Table 402.1.3 of the 2009 IECC complies, even if the cavity insulation is less than the prescriptive values in option 1. 3. Use an alternative equivalent total UA calculation. This approach is similar to option 2, but allows insulation to be traded off among assemblies (e.g., insulation can be moved from the walls to the ceiling or from the ceiling to the floor). This may result in a home where the insulation in one assembly is less than the prescriptive value while another assembly has more than the prescriptive value (e.g., the wall may have less than R-20 cavity insulation, while the ceiling has more than R-38). A total building thermal envelope UA that is less than or equal to the total UA resulting from the U-factors in Table 402.1.3 complies. <p>The insulation levels of all non-fenestration components (i.e., ceilings, walls, floors, and slabs) can be traded off using the UA approach. Note that fenestration products (i.e., windows, skylights, doors) shall not be included in this calculation. Also, note that while ceiling and slab insulation can be included in trade-off calculations, the R-value must meet or exceed the minimum values listed in items 4.1 through 4.3 of the checklist to provide an effective thermal break, regardless of the UA tradeoffs calculated.</p> <p>Any of these three options may be used to demonstrate compliance with Item 2.1. Note that there is a simulated performance alternative in the 2009 IECC code, Section 405, that allows one to reduce insulation in exchange for tighter ducts, less infiltration, etc. This is <u>not</u> one of the options available to demonstrate compliance with Item 2.1.</p>

ENERGY STAR Qualified Homes Policy Record

00024	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 2.2 & Item 4.4.1 – Request to use reflective insulation products to create a thermal break</p> <p>Issue: Partners have asked for permission to use radiant barrier house wrap as reflective insulation in place of the insulated sheathing and siding options referenced in Item 2.2 and Item 4.4.1.</p> <p>Resolution: Radiant barrier house wrap does not satisfy the insulated sheathing and siding options referenced in Item 2.2 and Item 4.4.1. The R-4 value noted in one product’s specifications provided by a partner is dependent upon a 0.375 inch airspace, which is not integral to the product. Additionally, these products are typically classified by the ICC Evaluation Service as weather barriers as opposed to insulation products.</p>
00025	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Change	<p>Section 3 – Attic kneewalls, skylight shafts, and sloped attics</p> <p>Issue: Partners have noted that attic knee walls and sloped attics, which may require very different strategies for aligning the air barrier and insulation, are grouped together in Item 3.1.3. They suggested that attic knee walls may be more logically grouped with skylight shaft walls in Item 3.1.4.</p> <p>Additionally, partners have continued to ask for clarification about the air barrier requirements for sloped surfaces. 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.</p> <p>Response: To simplify definitions, Footnote 11 will be 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.”</p> <p>The terms “sloped ceilings” and “sloped attics” will be removed from the program documents, as they are no longer needed. Item 3.1.3 will be simplified from “Attic knee walls / sloped attics” to “Attic knee walls”. The introductory block of Section 3 will be revised as follows:</p> <p>“At each insulated location noted below, a complete air barrier shall be provided that is fully aligned with the insulation as follows:</p> <ul style="list-style-type: none"> • “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

ENERGY STAR Qualified Homes Policy Record

				<ul style="list-style-type: none"> “At interior surface of floors in all climate zones, including supports to ensure permanent contact and blocking at exposed edge.”
00026	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	Section 3 – Sealing requirements for drywall used as an air barrier
				Issue: Partners have asked about the correct installation of drywall and other rigid sheathing products for use as an interior air barrier.
				Resolution: Per Footnote 6, “For purposes of this checklist, an air barrier is defined as any durable solid material that blocks air flow between conditioned space and unconditioned space, including necessary sealing to block excessive air flow at edges and seams and adequate support to resist positive and negative pressures without displacement or damage.” Drywall and other kinds of rigid sheathing products must be installed with any “necessary sealing to block excessive air flow at edges and seams” as well as support to resist changes in pressure, which in many cases will be the rigidity of the material itself.
00027	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	Section 3 – Fully-aligned air barrier locations
				Issue: Partners have asked if an air barrier is required on the bottom of floor joists between a basement and first story if the floor is within the pressure and thermal boundary and the basement is also unconditioned. Partners have also asked if an air barrier is required behind electrical boxes and at rim joists.
				Resolution: Section 3 states that air barriers are required at each insulated location noted, including “at interior surface of floors in all climate zones, including supports to ensure permanent contact and blocking at exposed edges.” Therefore, if the floor was not insulated, neither an exterior nor an interior air barrier would be required. If the floor was insulated, the underside of the floor joists would be the exterior surface of that assembly, so an air barrier would not be required at that location. Instead, an air barrier would be required at the interior surface. The checklist does not currently include a requirement for either air sealing or providing an air barrier behind electrical boxes. If the electrical box was adjacent to an insulated wall, then the wall would need to meet the same air barrier requirements as all other insulated walls. Rim joists are exempt from the requirement for an interior air barrier, but are required to have an exterior air barrier per Section 3 and Footnote 7.
00028	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Clarification	Item 3.2.3 – Air barrier requirements for insulated floor above unconditioned crawlspace
				Issue: Partners have noted that a fully-aligned air barrier should be required for insulated floors above all unconditioned crawlspace and not just vented crawlspace, as currently stated.
				Resolution: Section 3 requires a fully-aligned air barrier at each insulated location noted in Item 1.1, 1.2, and 1.3. To clarify that an air barrier is required for insulated floors above all

ENERGY STAR Qualified Homes Policy Record

				unconditioned crawlspaces, and not just vented crawlspaces, EPA will revise Item 3.2.3 to read as follows: "Floor above unconditioned basement or unconditioned crawlspace".
00029	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	Item 4.1 – Uncompressed insulation extended to exterior wall
				Issue: Partners have asked whether Item 4.1, which requires uncompressed insulation to extend to the inside face of the exterior wall for insulated ceilings with attic space above, is meant to require that uncompressed insulation extend to the inside face of the exterior wall sheathing or the inside face of the wall assembly.
				Resolution: Due to space constraints at the roof deck-exterior wall interface, uncompressed insulation is only required to extend to the inside face of the exterior wall assembly, not the inside face of the exterior wall sheathing.
00030	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	Item 4.2 – Slab edge insulation levels
				Issue: Partners have asked why there appears to be a discrepancy between Item 4.2 and the Thermal Enclosure System Rater Checklist Guidebook that was updated on 03/23/2011. The checklist states that for slabs on grade in Climate Zone 4 and higher, 100% of the slab edge shall be insulated to greater than or equal to R-5, while the guidebook includes a table on page 92 that implies a required insulation level of R-10.
				Resolution: Item 2.1 of the Checklist requires that ceiling, wall, floor, and slab insulation levels meet or exceed the 2009 IECC. One way to demonstrate compliance with this requirement is to use an alternative equivalent total UA calculation. This approach allows insulation to be traded off among assemblies (e.g., insulation can be moved from the walls to the ceiling, from the slab to the wall). This may result in a home where the insulation in one insulated component is less than the prescriptive value while another insulated component has more than the prescriptive value (e.g., the slab may have less than R-10 insulation, while the ceiling has more than R-38). A total building thermal envelope UA that is less than or equal to the total UA resulting from the U-factors in Table 402.1.3 complies with Item 2.1. While ceiling and slab insulation can be included in trade-off calculations, the R-value must meet or exceed the minimum values listed in items 4.1 through 4.3 of the checklist to provide an effective thermal break, regardless of the UA tradeoffs calculated. It is for this reason that there are references to both R-5 and R-10 slab insulation levels. The value of R-10 represents the component insulation requirement for slabs in Climate Zones 4 and higher. This value is to be met or exceeded when trade-off calculations are not used. In contrast, the value of R-5 represents the minimum slab insulation level allowed in these climate zones when UA trade-off calculations are used.
00031	07/25/2011	Thermal Enclosure System Rater Checklist	Change	Item 4.2 – Challenging slab edge insulation details
				Issue: Partners have presented EPA with various specific details that have presented challenges regarding the requirement in Climate Zone 4 and higher to insulate 100% of the

ENERGY STAR Qualified Homes Policy Record

		(Version 3, Rev. 03)	<p>slab edge when the slab is on grade. EPA already provides two exemptions related to post-tensioned slabs. Partners have recently asked about the following additional details:</p> <ul style="list-style-type: none"> • For stucco wall systems, can areas be exempted where weep screeds at the bottom of the wall lay flush with the foundation slab? • Can the existing exemption for post-tensioned slabs with integrated garage foundations in multifamily buildings be extended to townhomes? • Can a post-tensioned slab that spans a conditioned space and an adjacent unconditioned hallway in a multi-family structure be exempted? • Can a monolithic slab with a brick ledge be exempted? • Can termite view strips be exempted? <p>Resolution: EPA is willing to provide additional exemptions for Item 4.2 for details where a feasible means to insulate the slab edge has not been identified. However, where partners identify such details, they 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. These exemptions will impact the efficiency and comfort of the home; however, EPA is providing them because it has not yet identified a way that insulation can be effectively integrated into the design.</p> <p>With regards to the partner questions above:</p> <ul style="list-style-type: none"> • EPA believes that walls can be designed such that the weep screed rests upon slab insulation rather than directly on the foundation. For example, the sheathing of the exterior wall can be aligned in the same plane as the foundation insulation, providing a continuous insulated surface. Therefore, EPA will require insulation to extend behind the weep screed to satisfy the intent of Item 4.2. • EPA will extend the exemption regarding post-tensioned slabs. 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. • EPA will not require the horizontal brick ledge of monolithic slabs to be insulated in order 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. • Homes that have uninsulated termite view strips due to code requirements satisfy the intent of Item 4.2. <p>The last sentence of Footnote 5 of the checklist will be revised as follows: "Where specific</p>
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ENERGY STAR Qualified Homes Policy Record

				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."
00032	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Clarification	Item 4.4 – Applicability of reduced thermal bridging requirements to various wall types
				<p>Issue: Partners have asked EPA to clarify whether Item 4.4, which requires reduced thermal bridging at walls, applies to common walls that separate conditioned spaces, to below-grade exterior walls, to attic knee walls, and to mass walls.</p> <p>Resolution: The intent of this item is to improve the resistance of walls to heat transfer by eliminating thermal bridging. Reduced thermal bridging ensures more efficient wall construction and improves occupant comfort. Because heat transfer is driven by the temperature differential between adjacent spaces, Item 4.4 was designed for walls separating conditioned space from unconditioned space and limited to above-grade walls where the temperature differential is the greatest. Therefore:</p> <ul style="list-style-type: none"> • This item applies to all above-grade walls separating conditioned space from unconditioned space, including attic knee walls; • This item does not apply to common walls between attached housing units or to other walls that separate two conditioned spaces; • This item does not apply to below-grade walls, including foundation walls; • This item applies to mass walls, except mass walls that are part of a passive solar design. Compliance options are explained in the revision, below. <p>To reflect these clarifications, this item will be 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:" A new footnote will be added to this item, 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 must 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."</p>
00033	07/25/2011	Thermal Enclosure	Change	Footnote 8 – Thermal bridging requirement exemption for architectural features

ENERGY STAR Qualified Homes Policy Record

		System Rater Checklist (Version 3, Rev. 03)		<p>Issue: Partners have asked EPA to relocate Footnote 8, which provides an exemption of up to 10% of total exterior wall surface area from the reduced thermal bridging requirements, to Item 4.4 to improve clarity.</p> <p>Additionally, partners have asked whether wall sections with thermal bridging could qualify for this exemption for reasons other than architectural details (e.g., structural steel columns in walls, defective insulation installation).</p> <p>Resolution: EPA will relocate Footnote 8 to Item 4.4. EPA will also revise the Footnote to clarify that this exemption applies to any designed detail (i.e., intentional rather than unintentional design decision). The revised footnote will read 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.”</p>
00034	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 4.4 – Reduced thermal bridging using double-wall framing</p> <p>Issue: Partners have asked EPA to determine whether a wall constructed with 2x6 top and sill plates, staggered 2x4 studs with 12” on-center spacing, and dense packed cavity insulation would meet the intent of Item 4.4.</p> <p>Resolution: Footnote 15 provides the definition of double-wall framing, which would encompass the technique described above:</p> <p>“Double-wall framing is defined as any framing method that ensures a continuous layer of insulation covering the studs to at least the R-value required in Item 4.4.1 of the checklist, such as offset double-stud walls, aligned double-stud walls with continuous insulation between the adjacent stud faces, or single-stud walls with 2x2 or 2x3 cross-framing. In all cases, insulation shall fill the entire wall cavity from the interior to exterior sheathing except at windows, doors and other penetrations.”</p> <p>Therefore, this technique would meet the intent of Item 4.4, as long as a continuous layer of insulation covered the studs to at least the minimum insulation value listed in Item 4.4.1.</p>
00035	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 4.4 – Use of 2x4 walls in CZ 5-8</p> <p>Issue: Partners have asked about the reduced thermal bridging requirement for walls outlined in Item 4.4. Specifically, partners have asked for confirmation that 2x4 framing with 16” on-center spacing in Climate Zones 5-8 is an acceptable practice.</p> <p>Resolution: To meet the reduced thermal bridging requirements for walls, the builder may use any one of the strategies listed in Items 4.4.1 through 4.4.5, or a combination of these</p>

ENERGY STAR Qualified Homes Policy Record

				<p>strategies.</p> <p>If Item 4.4.5 is chosen, the builder must comply with all requirements listed in Items 4.4.5a – 4.4.5e. The use of 2x4 framing with 16” on-center spacing complies with Item 4.4.5e in every climate zone. However, if this option is chosen, the builder must also meet all requirements outlined in Items 4.4.5a – 4.4.5d in order to completely fulfill the requirements of Item 4.4.</p> <p>Also, note that Item 2.1 of the checklist requires that ceiling, wall, floor, and slab insulation levels meet or exceed the 2009 IECC. Therefore, additional insulation will likely need to be added to the non-wall assemblies in order to meet this item.</p>
00036	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Refinement	<p>Footnote 13 – Insulated siding and sheathing errata</p> <p>Issue: Partners have noted that the footnote describing the use of insulated siding and insulated sheathing as water resistive barriers has inadvertently interchanged the two terms relative to prior revisions.</p> <p>Resolution: To improve clarity, the footnote will be 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 4.3.5 shall be met for those wall sections.”</p>
				<p>Item 4.4.5a – Framing fractions related to advanced framing practices</p> <p>Issue: Partners have asked where to find standard framing fractions for various stud spacing distances, specifically those in Item 4.4.5e.</p> <p>Resolution: EPA does not provide default framing fraction values. Raters wishing to use default values should refer to the guidance provided in the RESNET 2006 Mortgage Industry National Home Energy Rating Standard, available at the following link: http://www.resnet.us/standards. Additionally, partners may wish to calculate the fraction for a specific home using its framing plan.</p>
				<p>Footnote 17 – Insulated header R-value requirements</p> <p>Issue: EPA has identified an unintended barrier to meeting the insulated header requirements in this checklist. Item 4.4.5b requires that partners insulate headers above windows and doors to at least R-5 in Climate Zones 5 through 8. While many partners in these climate zones are using 2x6 wall assemblies or 2x4 wall assemblies with insulated sheathing, several partners expressed difficulty meeting this requirement because of their use of 2x4 wall assemblies without insulated sheathing. For such wall assemblies, space constraints make it difficult to achieve the required insulation level.</p>
00037	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Footnote 17 – Insulated header R-value requirements</p> <p>Issue: EPA has identified an unintended barrier to meeting the insulated header requirements in this checklist. Item 4.4.5b requires that partners insulate headers above windows and doors to at least R-5 in Climate Zones 5 through 8. While many partners in these climate zones are using 2x6 wall assemblies or 2x4 wall assemblies with insulated sheathing, several partners expressed difficulty meeting this requirement because of their use of 2x4 wall assemblies without insulated sheathing. For such wall assemblies, space constraints make it difficult to achieve the required insulation level.</p>
00038	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Change	<p>Footnote 17 – Insulated header R-value requirements</p> <p>Issue: EPA has identified an unintended barrier to meeting the insulated header requirements in this checklist. Item 4.4.5b requires that partners insulate headers above windows and doors to at least R-5 in Climate Zones 5 through 8. While many partners in these climate zones are using 2x6 wall assemblies or 2x4 wall assemblies with insulated sheathing, several partners expressed difficulty meeting this requirement because of their use of 2x4 wall assemblies without insulated sheathing. For such wall assemblies, space constraints make it difficult to achieve the required insulation level.</p>

ENERGY STAR Qualified Homes Policy Record

				<p>EPA defined the requirement for R-5 header insulation in Climate Zones 5 through 8 assuming that builders in these regions would be using 2x6 framing, 2x4 framing with insulated sheathing, or other advanced assemblies in order to meet the 2009 IECC insulation levels required in Item 2.1. While this is true for many partners, some are using 2x4 wall assemblies without insulated sheathing. By using high-density insulation products and increased insulation in other assemblies, they are still able to meet the 2009 IECC insulation requirements using a UA approach. For these 2x4 assemblies, there is typically not enough space to incorporate R-5 insulation at the header.</p> <p>Resolution: The beginning of Footnote 17 will be revised to define minimum insulation levels based upon assembly thickness, rather than climate zone, 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...”</p>
00039	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 4.4.5e – Rater verification of stud spacing for advanced framing</p> <p>Issue: Partners have asked about the proper course of action when a Rater finds a framing element that does not have a clear structural purpose. Partners have also asked what course of action should be taken when the architect insists on a framing plan that does not meet the advanced framing requirements in Item 4.4.5.</p> <p>Resolution: In both cases, as per Footnote 20 of the checklist, the Rater should collect a framing plan from the builder, architect, designer, or engineer that encompasses the detail in question.</p> <p>With regards to framing plans that do not meet Item 4.4.5, EPA cannot place Raters in a position where they are asked to overrule the judgment of builders, architects, designers, or engineers on structural matters. For this reason, EPA does not require the Rater to evaluate the structural necessity of the details in the framing plan to qualify the home. Instead the Rater is advised to educate and collaborate with the builder to develop alternative strategies that do meet the intent where possible.</p> <p>Ultimately, the Rater has the ability to withhold the label and may choose to do so in cases where the Rater believes that there is a systematic attempt to circumvent the intent of this item. The Rater can also consult with their Provider and with EPA in such cases. EPA has included advanced framing details as one effective and low-cost means to reduce thermal bridging. However, if this option is not implemented properly on a consistent basis, EPA will need to consider whether to remove this option in future versions of the program guidelines.</p>
00040	07/25/2011	Thermal Enclosure System Rater Checklist	Comment	<p>Item 5.2.1 – Foam gasket beneath sill plates on concrete or masonry</p> <p>Issue: Partners have asked EPA to evaluate whether a sill sealer meets the intent of Item 5.2.1, which requires that sill plates adjacent to conditioned space be sealed to the foundation</p>

ENERGY STAR Qualified Homes Policy Record

		(Version 3, Rev. 03)		<p>or sub-floor with caulk and that a gasket also be placed beneath the sill plate if it rests atop concrete or masonry. Separately, partners have also asked EPA for permission to use adhesive in place of a foam gasket to meet the intent of this item.</p> <p>Resolution: A sill sealer would meet the intent of using a foam gasket underneath sill plates resting atop concrete or masonry. Note that Item 5.2.1 also requires the sill plate to be sealed to the foundation or subfloor with caulk.</p> <p>Adhesive is a bonding agent and does not provide the same air sealing properties as a foam gasket. When adhesive dries, it is prone to cracking, which can lead to many small penetrations through which air can enter the home. For this reason, applying adhesive to seal a sill plate to the foundation or sub-floor does not meet the intent of Item 5.2.1.</p>
00041	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 5.2.3 – Purpose and methods for sealing top plates</p> <p>Issue: Partners have asked about the intent of Item 5.2.3, which requires “sheetrock sealed to top plate at all attic/wall interfaces using caulk, foam, or equivalent material”. Partners have also asked about appropriate methods for meeting this requirement, including suggestions for gasketing materials that can be used between the top plate and drywall.</p> <p>Resolution: The interface between the drywall and the top plate is a common point of air leakage in the home’s pressure boundary. Furthermore, extreme temperatures are often found in unconditioned attics, exacerbating the efficiency and comfort impacts for the home’s occupants when leakage occurs.</p> <p>Per Item 5.2.3, there are two ways to seal drywall to top plates: “either apply the sealant directly between the sheetrock and top plate or to the seam between the two from the attic above.” EPA is not permitted to endorse any specific products, but any caulk, foam, or equivalent material that can fully seal the top plate is an acceptable material. Note that construction adhesive is not permitted to be used.</p>
				<p>Item 5.3.2 – Use of weather stripping to seal attic access panels</p> <p>Issue: Partners have asked whether weather stripping is sufficiently durable to be used as a gasketing material around attic access panels.</p> <p>Resolution: Weather stripping may be used as a gasketing material to meet the intent of Item 5.3.2.</p>
				<p>Item 5.3.2 – Attic access panel insulation levels</p> <p>Issue: Partners have asked why there is a discrepancy between the 2009 IECC’s required insulation levels for attic hatches and the requirements in Item 5.3.2. The partner noted that the 2009 IECC requires that attic hatches be insulated to the same levels as the surrounding area whereas the Thermal Enclosure System Rater Checklist requires a minimum of R-10.</p>
00042	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 5.3.2 – Use of weather stripping to seal attic access panels</p> <p>Issue: Partners have asked whether weather stripping is sufficiently durable to be used as a gasketing material around attic access panels.</p> <p>Resolution: Weather stripping may be used as a gasketing material to meet the intent of Item 5.3.2.</p>
00043	07/25/2011	Thermal Enclosure System Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 5.3.2 – Attic access panel insulation levels</p> <p>Issue: Partners have asked why there is a discrepancy between the 2009 IECC’s required insulation levels for attic hatches and the requirements in Item 5.3.2. The partner noted that the 2009 IECC requires that attic hatches be insulated to the same levels as the surrounding area whereas the Thermal Enclosure System Rater Checklist requires a minimum of R-10.</p>

ENERGY STAR Qualified Homes Policy Record

				<p>Resolution: The intent of Item 2.1 is to ensure that the overall thermal envelope of the home meets or exceeds the insulation level requirements of the 2009 IECC, as demonstrated by using the prescriptive R-values, an alternative equivalent U-factor calculation, or an alternative equivalent total UA calculation. However, Item 5.3.2 of the checklist imposes a minimum insulation level of R-10 for attic access panels, which must always be met, even when using the equivalent U-factor or total UA options.</p> <p>That is to say, the IECC allows builders to go down to R-0 (i.e., no insulation) in all locations as long as the builder compensates elsewhere with higher levels of insulation and achieves an equivalent U-factor or total UA value. EPA has learned, however, that there are several common locations with a high potential for significant thermal bypasses. Therefore, EPA is imposing more stringent requirements than code by never allowing the insulation level to drop below the level specified in Item 5.3.2, regardless of the tradeoffs used.</p>
00044	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Comment	<p>HVAC contractor training and credentialing</p>
				<p>Issue: Partners have asked if HVAC contractors who only install ventilation systems or local mechanical exhaust must still be credentialed. Similarly, for homes with hydronic heating (e.g., a boiler) and no air conditioning, partners have asked if a credentialed HVAC contractor must still be used to design and install the ventilation and exhaust system.</p>
				<p>Resolution: At this time, in order to verify any items on the HVAC System Quality Installation Contractor Checklist, the contractor must complete the necessary training and credentialing. Even if the contractor only installs a whole house ventilation system, they must hold the proper credentials. However, EPA is considering whether to allow alternate credentials to be used for homes in certain circumstances, such as homes with hydronic heating and no air conditioners (where the mechanical ventilation system is the only applicable portion of the contractor checklist) or for parties that only complete the HVAC design and not the installation or commissioning of equipment.</p>
00045	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Clarification	<p>Item 1.1 and 1.5 – Ventilation system requirements</p>
				<p>Issue: Partners have asked whether Item 1.5 is a requirement that can be met in place of Item 1.1, which requires that a ventilation system be designed to meet ASHRAE 62.2-2010 requirements, or if Item 1.1 must always be met.</p>
				<p>Resolution: A whole-building mechanical ventilation system that meets the requirements of ASHRAE 62.2-2010 shall be installed in each qualified home. To improve clarity, Item 1.1 will be 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.”</p>
00046	07/25/2011	HVAC System Quality Installation	Change	<p>Footnote 7 and 18 – HVAC design for multiple orientations</p>
				<p>Issue: Partners have requested that EPA combine Footnotes 7 and 18, which relate to HVAC</p>

ENERGY STAR Qualified Homes Policy Record

		Contractor Checklist (Version 3, Rev. 03)		<p>design, into a single footnote for clarity. Partners have also requested that EPA clarify the other design requirements for homes with multiple configurations or orientations and that some tolerance be provided when designing the duct system in order to minimize the number of different duct designs that need to be managed for a single plan.</p> <p>Resolution: Footnotes 7 and 18 will be combined into a single footnote, which will read 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 planned orientation and configuration of the home except as permitted herein.”</p> <p>“For house plans with multiple configurations or that may be built in more than one orientation, the loads shall be calculated for each potential orientation or alternate configuration. If the loads across all orientations vary by $\leq 25\%$, then the largest load shall be permitted to be used for equipment selection for all orientations, subject to the over-sizing limits of ACCA Manual S. Otherwise, the contractor shall group the load for each orientation into a set with $\leq 25\%$ variation and equipment selection shall be completed for each set of loads.”</p> <p>“For house plans with multiple configurations or that may be built in more than one orientation, the room-level design airflows shall be calculated for each potential orientation or alternate configuration. If the design airflows for each room vary across all orientations and 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 orientation and 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.”</p>
00047	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Comment	<p>Item 1.1 – Required flow rate for mechanical ventilation systems</p> <p>Issue: Partners have asked EPA how to calculate the required flow rate for intermittent and continuous ventilation systems under ASHRAE 62.2-2010. Partners have also asked if a control strategy in which the system delivers less than the required ventilation rate will meet the intent of Item 1.1.</p> <p>Resolution: The ASHRAE standard defines the minimum required ventilation flow rate based upon the floor area, number of bedrooms, duration of the cycle time (i.e., the total time for one on-cycle and one off-cycle), and the fraction of time that the system is on during each cycle. Partners should consult the standard for the relevant equations.</p> <p>Item 1.1 requires a control strategy that delivers at least 100% of the minimum required ventilation rate, so strategies that deliver less than that amount are not acceptable. That is not to say that the ventilation system must run every hour. Because the ASHRAE standard considers the duration of the cycle time and the fraction of time that the system is on during each cycle, it is possible to design a ventilation system that does not operate every hour yet</p>

ENERGY STAR Qualified Homes Policy Record

				meets the requirements of the ASHRAE standard.
00048	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Comment	Item 1.1 – Requirements for make-up air when using an exhaust-only ventilation system
				Issue: Partners have asked if make-up air or air inlets are required for exhaust-only ventilation systems.
				Resolution: ASHRAE 62.2-2010 does not require air inlets for exhaust only systems as long as the delivered ventilation rate meets the design ventilation rate.
00049	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Clarification	Section 6 – Guidance on refrigerant charge test in cold weather
				Issue: This section notes that if cold weather makes it impossible to verify proper refrigerant charge, the system must include a TXV. Partners have asked EPA to define the cold weather conditions for which a refrigerant test is not possible.
				Resolution: To promote consistent enforcement of this exemption, EPA will revise the note in this section, 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.”
00050	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Change	Section 8 – Simplified electrical measurements
				Issue: Partners have asked EPA to clarify which components contractors need to complete electrical measurements for and what the justification is for including watts as a test parameter. Regarding components, partners specifically questioned whether the condenser fan needed to be tested, given that this equipment is typically integral to the condenser unit and not easily accessible.
				Resolution: EPA’s intent was to align with the requirements of the ANSI/ACCA 5 QI-2007 protocol. This protocol requires that the contractor measure the line voltage, low voltage, and amperages for all components with rating plates to ensure that the difference between the measured and rating plate values are within the OEM’s tolerance. With this in mind, EPA will simplify and clarify the requirements 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. Therefore, Section 8 will be revised as follows: “8. Electrical Measurements – <i>Taken at electrical disconnect while component is in operation</i> “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”

ENERGY STAR Qualified Homes Policy Record

00051	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Change	Item 10.2 – Test and balance documentation
				Issue: This item requires that the contractor provide a “balancing report indicating quantity of supply and return terminals per room”. Partners have observed that contractors also need to provide the design flow rate for each supply register so that the Rater has the ability to verify that the proper free area opening has been provided for pressure balancing purposes.
				Resolution: EPA will edit this item to clarify the parameters that must be included, as follows: “Balancing report indicating, for each supply and return register: room name, design airflow, and final measured airflow”.
00052	07/25/2011	HVAC System Quality Installation Contractor Checklist (Version 3, Rev. 03)	Clarification	Item 12.1 – Drain pan for each HVAC component that produces condensate
				Issue: Partners have asked that EPA 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).
				Resolution: EPA will revise this item as follows to clarify that each piece of HVAC equipment that produces condensate shall have a drain pan: “Corrosion-resistant drain pan, properly sloped to drainage system, included with each HVAC component that produces condensate”.
00053	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Comment	Footnote 1 – Verification requirements for homes with boilers
				Issue: Partners have asked who should complete this checklist if a home is equipped with a boiler and radiant floor heating.
				Resolution: The HVAC System Quality Installation Rater Checklist must be completed by the Rater, but in this case many items will be marked “Not Applicable”.
00054	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Issue Under Review	Item 1.2.9 – Sizing requirements for heat pumps in cold climates
				Issue: Partners have asked whether the listed total cooling capacity limits noted in Item 1.2.9 contain exemptions for heat pump systems in cold climates, as these systems are typically sized to the heating load.
				Resolution: [Issue under review]
00055	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Comment	Item 1.3 – Acceptable documentation for whole-building mechanical ventilation design
				Issue: Partners have asked whether a manufacturer’s instruction sheet or a designer’s documentation showing run-time pattern requirements and control locations would meet the intent of Item 1.3, which requires that documentation be attached with the ventilation system type, location, design rate and frequency.
				Resolution: A designer’s documentation showing run-time pattern requirements would meet the intent of Item 1.3. A manufacturer’s instruction sheet may meet the intent of this requirement if it clearly identifies the ventilation design rate and frequency that has been

ENERGY STAR Qualified Homes Policy Record

				selected for the rated home. That is to say, mechanical ventilation equipment can be run in multiple ways to meet the ventilation requirements of the ASHRAE standard and it may not be apparent from the instruction sheet alone which strategy has been selected. For example, a bathroom exhaust fan may be run continuously at one rate or intermittently at a higher rate to satisfy the requirement. If the designer indicates on the instruction sheet which ventilation design rate and frequency have been selected, then the intent for this item would be met.
00056	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Issue Under Review	Item 2.8 – Position of bedroom doors during pressure balancing test
				Issue: Partners have asked EPA to clarify what position bedroom doors should be in when conducting the pressure balancing diagnostic test.
				Resolution: [Issue under review]
00057	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Clarification	Footnote 12 – Clarification of ducts that require insulation
				Issue: Partners have requested that EPA clarify the intent of Footnote 12. The footnote reads, “EPA recommends, but does not require, that all metal ductwork (e.g., exhaust ducts, duct boots) be insulated and that insulation be sealed to duct boots to prevent condensation.” To some partners, this language appears to contradict Section 3, which does require insulation for connections to trunk ducts in unconditioned spaces and for supply ducts in unconditioned attics. Partners have also asked whether Footnote 12 requires or recommends insulation on ducts in conditioned space.
				Resolution: In order to eliminate the apparent contradiction between Section 3 and Footnote 12, EPA will revise Footnote 12 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.”
00058	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Comment	Footnote 13 – Exemption for testing duct leakage
				Issue: Partners have asked if a home would still have to pass the total duct leakage test when testing of duct leakage to the outdoors is waived because a home’s envelope leakage is less than or equal to half the Prescriptive Path’s infiltration limit for its climate zone.
				Resolution: Per Footnote 13, the Rater is only exempted from testing the duct leakage to the outdoors if all ducts and air handling equipment are within conditioned space AND the infiltration is less than or equal to half the limit for that climate zone. If both of these criteria have been met, then the Rater is exempted from testing the duct leakage to the outdoors, but still must perform the total duct leakage test. There is no waiver for testing the total duct leakage.
00059	07/25/2011	HVAC System	Comment	Item 4.3 – Sealing of duct boots

ENERGY STAR Qualified Homes Policy Record

		Quality Installation Rater Checklist (Version 3, Rev. 03)		<p>Issue: Partners have asked EPA to clarify if drywall mud is an acceptable material for sealing duct boots to floors, walls, and ceilings.</p> <p>Resolution: Drywall mud is not designed for this application because it can become brittle and can crack after drying, preventing an airtight seal between the duct boot and the surrounding surface. For this reason, drywall mud is not an acceptable material for the purpose of meeting this item.</p>
00060	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Comment	<p>Item 5.1 – Validation of contractor-selected ventilation design rate</p> <p>Issue: Partners have asked how they should verify that the design ventilation rate selected by the contractor and listed in Item 2.11 of the HVAC System Quality Installation Contractor Checklist (Rev. 03) was properly calculated.</p> <p>Resolution: Item 5.1 requires that the Rater-verified ventilation rate be within 100-120% of the HVAC Contractor design value. The wording is important, because it's not the Rater's responsibility to determine whether the contractor-reported value is compliant with the ASHRAE 62.2-2010 standard, only that the Rater-measured ventilation rate is within the tolerance of the contractor-reported value. In cases where the Rater is knowledgeable about the ASHRAE standard and believes that the contractor-reported design value is incorrect, the Rater is encouraged to share that observation with the contractor and builder as an educational opportunity.</p>
00061	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Change	<p>Item 6.2 – Guidance on cool air flow test in cold weather</p> <p>Issue: This item requires the Rater to assess whether cool air flow is produced when the cooling cycle is energized. EPA has received feedback that the cool air flow test should not be performed below a certain temperature because of the potential for liquid line slugging.</p> <p>Resolution: EPA will add a new footnote that provides an exemption for this test when the outdoor temperature is below a specific threshold to prevent possible equipment damage, 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."</p>
00062	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Clarification	<p>Item 6.5 – Labeling ventilation controls</p> <p>Issue: Partners have expressed confusion about whether Item 6.5, "Ventilation controls labeled, unless function is obvious (e.g., bathroom exhaust fan)", requires or does not require labeling of bathroom exhaust fan controls.</p> <p>Resolution: EPA intended this requirement to align with the requirement for labeling</p>

ENERGY STAR Qualified Homes Policy Record

				ventilation controls in ASHRAE 62.2-2010. EPA will revise the requirement to read as follows: "Function of ventilation controls is obvious (e.g., bathroom exhaust fan) or, if not, controls have been labeled."
00063	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Change	Item 7.2 – Air inlet height requirements for North Carolina
				Issue: Partners in North Carolina have noted that the ventilation air inlet height requirement is significantly greater than historical records of snowfall for this state and would be particularly problematic for homes with HVAC equipment in crawlspaces or basements.
				Resolution: 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.
00064	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Clarification	Section 8 – Requirements for local mechanical exhaust
				Issue: Partners have expressed confusion about whether Section 8 requires local mechanical exhaust systems to be installed and meet the requirements of Section 8, or if it simply requires that local mechanical exhaust systems, where installed, meet the requirements of Section 8.
				Resolution: EPA will revise the requirements for Section 8 to read 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:"
00065	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Comment	Section 8 – Local mechanical exhaust locations
				Issue: Partners have asked if all kitchen exhaust fans must exhaust to the exterior. Partners have also asked if recirculating (non-vented) above-the-range hood fans meet the intent of the requirements in Section 8.
				Resolution: Each kitchen must have at least one exhaust system that vents to the outdoors. Fans that recirculate air and do not exhaust to the outdoors do not meet the intent of Section 8. For example, a kitchen is permitted to have a recirculating fan above-the-range hood, but to meet the intent of Section 8 the kitchen must also have an exhaust fan (e.g., wall-mounted, ceiling-mounted) that vents directly to the outdoors.
00066	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Comment	Section 9 – Static pressure test conditions
				Issue: Partners have asked whether there are any specific conditions or procedures for static pressure readings in the supply and return ducts.
				Resolution: The HVAC system shall be in operation, and the supply and return duct static pressures shall be measured at the locations noted in Footnote 21. EPA is considering whether to develop a more formal test procedure for this requirement.

ENERGY STAR Qualified Homes Policy Record

00067	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Clarification	Item 9.1 – Definition of remote-mounted fans
				<p>Issue: Partners have asked EPA to clarify whether a remote-mounted fan is exempt from the sound rating requirement based on its location alone or if the fan must also have ≥ 4 ft ductwork between the fan and intake grills.</p> <p>Resolution: To improve the clarity of the definition for a remote-mounted fan, the portion of the associated footnote that defines this term will be clarified 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.”</p>
00068	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Clarification	Item 10.1 – Test requirements for naturally drafted combustion appliances
				<p>Issue: Partners have asked which specific combustion safety tests are required to be performed in homes with a natural draft combustion appliance inside the pressure boundary. Also, EPA has determined that the phrase “atmospherically vented” is better expressed as “natural draft” or “naturally drafted”.</p> <p>Resolution: For improved clarity, EPA will replace the phrase “atmospherically vented equipment” with the phrase “naturally drafted equipment” and add a definition to Footnote 27, as follows:</p> <p>“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.”</p> <p>To clarify the tests required to demonstrate compliance with Item 10.1, this item will be 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.”.</p>
00069	07/25/2011	HVAC System Quality Installation	Clarification	Item 10.2 – Combustion safety testing for fireplaces
				<p>Issue: Item 10.2 provides two options for evaluating the likelihood that a fireplace will backdraft</p>

ENERGY STAR Qualified Homes Policy Record

		Rater Checklist (Version 3, Rev. 03)		<p>in a home. One option is to verify that the total net rated exhaust flow of the two largest fans (excluding summer cooling fans) is ≤ 15 CFM per 100 sq. ft. of occupiable space. The second option is to conduct BPI or RESNET's combustion safety test procedure and verify that the worst-case depressurization is ≤ 5 Pa. Partners have asked EPA to clarify which specific test procedure is required to demonstrate compliance with the second option. Partners have also asked EPA to clarify if the net change in pressure between the baseline and worst-case depressurization conditions should be expressed as -5 Pa, rather than 5 Pa.</p> <p>Resolution: EPA will clarify that the second compliance option for Item 10.2 is to conduct a worst-case depressurization test using the RESNET or BPI combustion safety test procedure. The one modification will be that for the RESNET procedure, the blower door will not be set to exhaust 300 CFM to simulate the fireplace in operation.</p> <p>In addition, EPA will clarify that the net change in pressure within the combustion zone between the baseline and worst-case depressurization conditions should not exceed -5 Pa, rather than 5 Pa.</p> <p>Item 10.2 will read 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." Footnote 29 will have the following sentence added to the end: "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."</p>
00070	07/25/2011	HVAC System Quality Installation Rater Checklist (Version 3, Rev. 03)	Clarification	<p>Item 10.3 – Ambient CO test procedure for unvented combustion appliances</p> <p>Issue: Item 10.3 requires Raters to conduct BPI or RESNET's combustion safety tests when unvented combustion appliances are present. However, partners have noted that unvented combustion appliances are prohibited in homes by the BPI standards, so there are no combustion safety tests for unvented combustion appliances in the BPI Standards.</p> <p>In addition, Item 10.3 requires that ambient CO levels not exceed 35 ppm. However, ambient CO levels are typically measured and monitored while conducting other combustion safety tests for vented combustion appliances. Partners have indicated that in the case of unvented combustion appliances, the procedure is unclear, particularly how long the unvented appliance should be operated before assessing the ambient CO level.</p> <p>Resolution: EPA will explicitly describe the test procedure to be executed for unvented combustion appliances. Item 10.3 will read 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."</p>

ENERGY STAR Qualified Homes Policy Record

00071	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Comment	<p>Footnote 4, 5, and 11 – Site-level versus community-level soil reports</p> <p>Issue: Partners have asked if soil reports performed for the Water Management System Builder Checklist are valid for a single home or an entire community.</p> <p>Resolution: The certified hydrologist, soil scientist, or engineer should be the one to determine whether their evaluation is applicable to a single site or to an entire community. Ultimately, the reported soil conditions must be valid for each home qualified.</p> <p>For example, if the soil expert determines that he/she can evaluate the soil conditions across multiple lots in one visit, then only a single assessment will be needed. Conversely, if the soil expert determines that he/she can only assess the soil conditions for a single lot at a time, then multiple assessments will be needed.</p>
00072	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Change	<p>Item 1.2 – Alternative to Tamping Back-Fill</p> <p>Issue: 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. They have requested that EPA permit this process be used to satisfy the intent of Item 1.2.</p> <p>Resolution: EPA will permit this process to be used to meet the intent of Item 1.2.</p> <p>Item 1.2 will be revised as follows: "Back-fill has been tamped and final grade sloped ≥ 0.5 in. per ft. away from home for ≥ 10 ft. See footnote for alternatives."</p> <p>The accompanying footnote will be revised 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)."</p>
00073	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Change	<p>Item 1.3 – Drainage layer under slabs</p> <p>Issue: Several builders have expressed dissatisfaction with Item 1.3. Specifically, some builders are reluctant to install the layer of aggregate or sand with geotextile matting because they claim it adds additional cost to the home without providing any benefit.</p> <p>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.</p> <p>Resolution: The primary purpose of the layer of aggregate or sand with geotextile matting is to protect the slab from frost heave, which can occur when water freezes in the soil beneath the slab and expands. However, there is no definitive language in the Residential Building Code that requires a drainage layer beneath all slabs. Furthermore, there are many alternative</p>

ENERGY STAR Qualified Homes Policy Record

				<p>building practices employed around the country that do not rely on a drainage layer. Therefore, EPA will remove the explicit requirement for a layer of aggregate or sand with geotextile matting.</p> <p>The layer of polyethylene sheeting remains a mandatory requirement, except in dry climates where water intrusion to the slab is not a major concern, because it provides a capillary break beneath the slab.</p> <p>To accommodate more diverse building practices, Item 1.3 will be revised to read as follows: “Capillary break beneath all slabs (e.g., slab on grade, basement slab) except crawlspace slabs using ≥ 6 mil polyethylene sheeting lapped 6-12 in. or ≥ 1” extruded polystyrene insulation with taped joints.⁵”</p> <p>Additionally, Footnote 5 will be revised to read: “5. 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.”</p>
00074	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Comment	Item 1.4.2 – Fastening options for polyethylene sheeting on crawlspace floors
				Issue: Partners have asked whether polyethylene sheeting on the floor of a crawlspace is required to be sealed at the edges with tape or mastic.
				Resolution: The polyethylene sheeting installed on the crawlspace floor is not required to be sealed with tape or mastic at the edges. However, the sheeting is required to be lapped 6-12 inches in addition to being either lapped up each wall enough to be fastened or secured in the ground at the perimeter using stakes.
00075	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Comment	Item 2.1 – Flashing at bottom of exterior walls
				Issue: Partners have expressed concern about the difficulty of including flashing at the bottom of wood-framed walls over crawl spaces and slabs where the vinyl siding hangs below the bottom plate and sheathing.
				Resolution: This is a mandatory requirement for all ENERGY STAR homes and cannot be waived, but it can be met through an “equivalent drainage system.” If builders have questions about whether a specific wall assembly meets this requirement, they should submit a brief description of such a system and supporting pictures or drawings to energystarhomes@energystar.gov .
00076	07/25/2011	Water Management System Builder Checklist	Comment	Item 2.3 – Flexible flashing products
				Issue: Partners have asked if flexible pan flashing products may be used to meet Item 2.3 or if rigid products are required.

ENERGY STAR Qualified Homes Policy Record

		(Version 3, Rev. 03)		Resolution: Item 2.3 does not specify whether pan flashing must be flexible or rigid. As long as a material is water impermeable, attaches durably to the frame, and can be integrated with other materials to create a continuous drainage plane, it meets the intent of Item 2.3.
00077	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Clarification	Item 2.3 – Window and door openings fully flashed
				Issue: Partners have asked if the American Architectural Manufacturers Association’s (AAMA) Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction fulfills the requirements of Item 2.3. Partners have also asked whether pan flashing is required to extend up onto the side jambs.
				Resolution: In homes where water penetrates the window assembly, it will drain to the lowest point, which is the sill framing member. 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 AAMA Standard Practice 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, the accompanying footnote will be 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.”
00078	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Issue Under Review	Item 3.2 – Gutters and downspouts
				Issue: Partners have requested that EPA allow alternatives to gutters and downspouts where a complete drainage system consistent with the International Residential Code (e.g., sloped sod with sand and swales) has been provided.
				Resolution: [Issue under review]
00079	07/25/2011	Water Management System Builder Checklist (Version 3, Rev. 03)	Comment	Item 3.2 – Expansive or collapsible soils
				Issue: Partners have asked if builders need to obtain a soil assessment for every home to comply with Item 3.2.
				Resolution: Only a home that is built in expansive or collapsible soils and that does not have a slab on grade foundation is required to meet Item 3.2. Therefore, if the home has a slab on grade foundation, the builder is not required to obtain a soil assessment and can mark this item as ‘N/A’. Additionally, if the home is built with properly installed gutters & downspouts, it meets this requirement regardless of soil type and the builder is not required to obtain a soil assessment. A soil assessment is only needed for a home that does not have a slab on grade foundation and for which the builder needs to demonstrate that the soil is not expansive or collapsible so

ENERGY STAR Qualified Homes Policy Record

				as to avoid the installation of gutters and downspouts.
00080	07/25/2011	HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 03)	Refinement	Crawlspace wall insulation characteristics
				Issue: Partners have noted that for homes with crawlspace foundations, the Expanded ENERGY STAR Reference Design Definition requires that the crawlspace conditioning type always be vented and therefore configured with floor insulation. Therefore, references in this document to unvented crawlspaces and to crawlspace wall insulation are irrelevant.
				Response: To improve clarity, references to unvented crawlspaces and crawlspace wall insulation will be removed from the Building Component section for Foundations, as follows: <ul style="list-style-type: none"> The first bullet in the Insulation section will be revised to state, "Basement Wall Assembly U-factor only applies to conditioned basements; if applicable, insulation shall be located on interior side of walls". A new bullet will be added, stating, "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 line item listing Crawlspace Wall Assembly U-Factor values will be deleted.
00081	07/25/2011	HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 03)	Change	Determining gross basement wall area
				Issue: 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. This occurs, for example, when a wall separates the basement spaces of adjacent townhome units.
				Response: EPA intended to exclude walls that are not in contact with either the ground or outdoor ambient air because of the difficulty of determining the area of the above-grade and below-grade portions of those walls. The beginning of Footnote 1 will be revised to read as follows: "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)."
00082	07/25/2011	HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 03)	Change	Basement exclusion from Size Adjustment Factor
				Issue: Partners have asked EPA to allow bedrooms in basements to be included when determining the Benchmark Home Size. In the rare instances where the majority of bedrooms in a home are located in the basement, excluding these bedrooms can result in the application of a significant Size Adjustment Factor, resulting in a meaningfully more stringent ENERGY STAR HERS Index Target.
				Response: To eliminate this hardship for these homes, EPA will now allow all bedrooms in the

ENERGY STAR Qualified Homes Policy Record

				<p>home to be counted when determining the Benchmark Home Size, regardless of location. 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.</p> <p>The document will be revised as follows:</p> <ul style="list-style-type: none"> The last paragraph of Step 2 will be 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 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. Footnote 1 will be revised as follows; "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 this change 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). 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."
00083	07/25/2011	County-Level Reference Design Documents (Version 3, Rev. 03)	Change	Program eligibility – Harmonizing requirements with Multifamily High-Rise Program
				Issue: EPA has recently launched its ENERGY STAR Multifamily High Rise Program. The eligibility requirements of the ENERGY STAR for New Homes Program need to be harmonized with the eligibility requirements of that new program.
				Resolution: The eligibility requirements on page one of the County-Level Reference Design documents will be revised as follows: "To earn the ENERGY STAR under the Version 3 Guidelines, homes must be one of the following: <ul style="list-style-type: none"> "Single family homes; OR

ENERGY STAR Qualified Homes Policy Record

				<ul style="list-style-type: none"> • “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. <p>“Units in multifamily buildings that are not eligible for the ENERGY STAR through the New Homes program may be eligible to qualify through the Multifamily High Rise Program.</p> <p>The associated footnotes are as follows:</p> <ol style="list-style-type: none"> 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, <i>but where dwelling units occupy less than 80%</i> 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.”
00084	07/25/2011	County-Level Reference Design Documents (Version 3, Rev. 03)	Change	<p>Determining gross basement wall area</p> <p>Issue: 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. This occurs, for example, when a wall separates the basement spaces of adjacent townhome units.</p> <p>Response: EPA intended to exclude walls that are not in contact with either the ground or</p>

ENERGY STAR Qualified Homes Policy Record

				<p>outdoor ambient air because of the difficulty of determining the area of the above-grade and below-grade portions of those walls.</p> <p>The beginning of Footnote 4 will be revised to read as follows: “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).”</p>
00085	07/25/2011	County-Level Reference Design Documents (Version 3, Rev. 03)	Change	<p>Basement exclusion from Size Adjustment Factor</p> <p>Issue: Partners have asked EPA to allow bedrooms in basements to be included when determining the Benchmark Home Size. In the rare instances where the majority of bedrooms in a home are located in the basement, excluding these bedrooms can result in the application of a significant Size Adjustment Factor, resulting in a meaningfully more stringent ENERGY STAR HERS Index Target.</p> <p>Response: To eliminate this hardship for these homes, EPA will now allow all bedrooms in the home to be counted when determining the Benchmark Home Size, regardless of location. 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.</p> <ul style="list-style-type: none"> • Step 1 of the County-Level Reference Design documents will be 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 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. • Footnote 4 will be revised as follows: “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 this change 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

ENERGY STAR Qualified Homes Policy Record

				rating the home (e.g., determining compliance with duct leakage requirements). 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."
00086	07/25/2011	County-Level Reference Design Documents (Version 3, Rev. 03)	Refinement	ENERGY STAR Prescriptive Path errata
				Issue: EPA has identified a minor typographical error in Step 1 of the Prescriptive Path in the county-level reference design documents: "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 2." Additionally, "Prescriptive Path" is not consistently capitalized in the county-level reference design documents. Particularly in Footnote 14, this error creates some confusion as to what "prescriptive path" refers to.
				Resolution: The phrase, "to built..." in Step 1 of the Prescriptive Path will be revised to "to be built..." References to the Prescriptive Path have been capitalized throughout the county-level reference design documents.
00087	07/25/2011	County-Level Reference Design Documents (Version 3, Rev. 03)	Refinement	Footnote 10 – Slab framing systems
				Issue: Partners have asked EPA to define the phrase "slab framing system" in Footnote 10 of the County-Level Reference Design documents.
				Response: This footnote will be revised to read 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."
00088	07/25/2011	County-Level Reference Design Documents (Version 3, Rev. 03)	Refinement	Footnotes 11d and 12d – Insulation levels for steel-frame assemblies
				Issue: Partners have advised that the county-level reference design documents reference erroneous guidance contained in the 2009 IECC related to the UA calculation for a steel-frame envelope assembly.
				Resolution: Footnote 12d in the County-Level Reference Designs for Climate Zones 1-3 and Footnote 11d in the County-Level reference Designs for Climate Zones 4-8 have been revised to read 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."
00089	07/25/2011	County-Level Reference Design: Climate Zone 4	Refinement	Climate Zone 4 Reference Design errata
				Issue: Partners have noted that the Revision 02 County Level Reference Design for Climate Zone 4 contains several inconsistencies with the National ENERGY STAR Reference Design

ENERGY STAR Qualified Homes Policy Record

		(Version 3, Rev. 03)		<p>requirements.</p> <p>Response: The window U-value, window SHGC, and cooling efficiency requirements will be aligned with the national guidelines as follows:</p> <ul style="list-style-type: none"> • 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 14. • 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.
00090	07/25/2011	National Program Requirements (Version 2.5, Rev. 03)	Clarification	<p>Exhibit 2, Footnote 3 – Timeline for low-income projects</p> <p>Issue: Partners have asked EPA to clarify several aspects of the extended Version 2 timeline for low-income projects financed through low-income housing agencies, including the following:</p> <ul style="list-style-type: none"> • What kind of organization qualifies as a “low-income housing agency”? • What kind of financial support qualifies as “funding”? • How should builders and developers document when funding applications are received by funding agencies? • What is the overall intent of the extended Version 2 timeline for this kind of project? <p>Response: By "low-income housing agency," EPA means any entity that provides public funding to nonprofit builders and developers for the construction of housing projects specifically for low-income tenants.</p> <p>By "funding," EPA means public funding such as public grants or Low Income Housing Tax Credit (LIHTC) funds. The funding must be critical to the project financing, such as financing land acquisition, infrastructure, or construction. Funding intended for noncritical activities, such as for providing mortgage financing to homebuyers, does not qualify for the extended timeline.</p> <p>It is the responsibility of the funding applicant (the developer and builder) to keep on file written proof that they applied for public funds for use in constructing a low-income housing project to be ENERGY STAR qualified under Version 2. This documentation should identify the funding agency and the date when the funding application was received by the funding agency. This could be a copy of the funding application itself that has been date stamped by the funding agency. If there is no documentation that indicates when the funding application was received by the funding agency, there should at least be documentation that indicates when the funding application was sent to the funding agency by the funding applicant. It is the responsibility of</p>

ENERGY STAR Qualified Homes Policy Record

				<p>the developer and builder to make this documentation available to the Rater (as well as to EPA upon request) so the Rater can verify whether or not the housing project qualifies for this exemption to the national Version 3 implementation timeline. Also, the builder or developer is responsible for providing to the Rater (as well as EPA upon request) a copy of documentation that shows that the funding was awarded prior to completion of the housing project.</p> <p>The intent of the low-income housing exemption to the national Version 3 implementation timeline is to give nonprofit low-income housing builders and developers additional time to build homes to earn the ENERGY STAR label under Version 2 with the understanding that low-income housing projects typically require some form of public funding in order to be constructed and that the process for obtaining public funding typically adds time to the build-out timeline. EPA decided to provide this exemption based on when the funding application was received as opposed to when the application was approved or when funding was actually received in order to avoid penalizing nonprofit low-income housing developers and builders for delays caused by the funding agency in reviewing and approving funding applications.</p>
00091	07/25/2011	National Program Requirements (Version 2.5, Rev. 03)	Comment	<p>Performance Path – Exhaust fan requirements</p> <p>Issue: Partners have asked whether ENERGY STAR labeled exhaust fans must be used in homes qualified under the Performance Path in ENERGY STAR Version 2.5.</p> <p>Resolution: When qualifying a home under Version 2.5 using the Performance Path, ENERGY STAR labeled exhaust fans are not required.</p>
00092	07/25/2011	Florida Program Requirements (Version 2.5, Rev. 03)	Clarification	<p>Footnote 3 – Timeline for low-income projects</p> <p>Issue: Partners have asked EPA to clarify several aspects of the extended Version 2 timeline for low-income projects financed through low-income housing agencies, including the following:</p> <ul style="list-style-type: none"> • What kind of organization qualifies as a “low-income housing agency”? • What kind of financial support qualifies as “funding”? • How should builders and developers document when funding applications are received by funding agencies? • What is the overall intent of the extended Version 2 timeline for this kind of project? <p>Response: By “low-income housing agency,” EPA means any entity that provides public funding to nonprofit builders and developers for the construction of housing projects specifically for low-income tenants.</p> <p>By “funding,” EPA means public funding such as public grants or Low Income Housing Tax Credit (LIHTC) funds. The funding must be critical to the project financing, such as financing land acquisition, infrastructure, or construction. Funding intended for noncritical activities, such as for providing mortgage financing to homebuyers, does not qualify for the extended timeline. It is the responsibility of the funding applicant (the developer and builder) to keep on file written</p>

ENERGY STAR Qualified Homes Policy Record

				<p>proof that they applied for public funds for use in constructing a low-income housing project to be ENERGY STAR qualified under Version 2. This documentation should identify the funding agency and the date when the funding application was received by the funding agency. This could be a copy of the funding application itself that has been date stamped by the funding agency. If there is no documentation that indicates when the funding application was received by the funding agency, there should at least be documentation that indicates when the funding application was sent to the funding agency by the funding applicant. It is the responsibility of the developer and builder to make this documentation available to the Rater (as well as to EPA upon request) so the Rater can verify whether or not the housing project qualifies for this exemption to the national Version 3 implementation timeline. Also, the builder or developer is responsible for providing to the Rater (as well as EPA upon request) a copy of documentation that shows that the funding was awarded prior to completion of the housing project.</p> <p>The intent of the low-income housing exemption to the national Version 3 implementation timeline is to give nonprofit low-income housing builders and developers additional time to build homes to earn the ENERGY STAR label under Version 2 with the understanding that low-income housing projects typically require some form of public funding in order to be constructed and that the process for obtaining public funding typically adds time to the build-out timeline. EPA decided to provide this exemption based on when the funding application was received as opposed to when the application was approved or when funding was actually received in order to avoid penalizing nonprofit low-income housing developers and builders for delays caused by the funding agency in reviewing and approving funding applications.</p>
00093	07/25/2011	Thermal Bypass Inspection Checklist (Version 2)	Clarification	Use of infrared thermography
				Issue: Partners have asked if infrared thermography can be used to complete the Thermal Bypass Checklist.
				<p>Resolution: The Thermal Bypass Inspection Checklist permits alternative methods of meeting the checklist requirements to be used if the Provider deems them to be equivalent, or more stringent, than the Inspection Checklist guidelines.</p> <p>At their discretion, Providers are permitted to allow their Raters to use IR thermography to complete relevant portions of the Thermal Bypass Inspection Checklist for homes qualified under Version 2 of the program. EPA recommends, but does not require, that RESNET's Interim Guidelines for Thermographic Inspections of Buildings be used. Regardless of the method used, the Rater and Provider are the parties responsible for verifying that the requirements of the checklist have been completed.</p> <p>Note that EPA is evaluating its policy regarding the use of IR thermography for homes qualified under Version 2.5 and Version 3 of the program, given the increased requirements under these versions and the pending finalization of RESNET's Guidelines for Thermographic Inspections of Buildings.</p>

ENERGY STAR Qualified Homes Policy Record

00094	07/25/2011	Thermal Bypass Inspection Checklist (Version 2)	Comment	<p>Item 5.4 – Recessed lighting fixtures</p> <p>Issue: EPA was asked whether insulation contact-rated lights that are not also rated as air-tight can fulfill the intent of Item 5.4, “ICAT labeled and sealed to drywall,” if all penetrations are sealed with heat-resistant tape or foam.</p> <p>Resolution: Light fixtures that are not ICAT rated but are IC rated and appear to be air tight by visual inspection or have product labeling that implies air tightness do not meet the intent of Item 5.4. A visual inspection for air tightness is not the equivalent to an ICAT label. Also, given the low cost differential between ICAT labeled fixtures and IC labeled fixtures that appear air tight, there is little justification for such an allowance.</p>
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