Current ENERGY STAR Certified 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.

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 program requirements. 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 from 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.

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ID	Log Date	Program Document	Classification	Topic
00602	**02/23/2017**	**All National & Regional Program Documents**	**Clarification**	**How to address homes with multiple permit dates**
				Issue: Partners have has asked whether a home with multiple permits must use the last permit date to determine which version of the program requirements to meet. In some cases, the issuance of a re-permit may have no impact on the efficiency-related code requirements of the home, while in other cases that may not be the case.
				Resolution: Because the causes and implications of a re-permit are varied, for homes that have multiple permit dates, Raters are permitted to use their discretion when selecting which permit date to use to determine the version of the program that the home must be certified under.
00617	**09/01/2017**	**All National & Regional Program Documents**	**Clarification**	**Rev. 08 Implementation Timeline in the Pacific Northwest**
				Issue: Partners in the Pacific Northwest have asked for clarification on the implementation timeline for Rev. 08. Partners using the Northwest ENERGY STAR program requirements are required to transition to Rev. 08 for homes permitted on or after 07/01/2015, as that regional program is sunset in exchange for the national program. However, some partners in this region have also had the option to certify homes under the national program requirements, which requires the use of Rev. 08 for homes permitted on or after 07/01/2016. Clarification is required as a result of the two different implementation timelines for Rev. 08 in this region.
				Resolution: All homes that are certified using the Version 3 or 3.1 National Program Requirements are permitted to use the associated implementation timeline for Revision 08, which applies to all homes permitted on or after 07/01/2016. As the Northwest ENERGY STAR program requirements wind down, remaining homes certified using those program requirements are required to transition to Rev. 08 for homes permitted on or after 07/01/2015.
00647	**12/13/2017**	**All National & Regional Program Documents**	**Clarification**	**Single person or company is permitted to serve as both Rater and builder**
				Issue: A partner has asked whether a home can earn the ENERGY STAR if a single person or company is both the builder and Rater for the home.
				Resolution: The ENERGY STAR program does not currently have any policy that would prevent a builder from also acting as the Rater for a home, so long as the company has met the requirements to serve both roles (i.e., meets RESNET's requirements for Raters and meets EPA's requirements for builders). It is worth noting, however, that RESNET requires that Raters complete a "RESNET Home Energy Rating Standard Disclosure" form for each home and provide that to the rating client, who is responsible for providing a copy to the home owner / buyer. The disclosure form requires a Rater or the Rater's employer to indicate if they are also

				the builder or developer of the home. Furthermore, Raters are overseen by Providers, who would have to agree to oversee a Rater that is serving both roles.
00685	**09/01/2018**	**All National & Regional Program Documents**	**Refinement**	**Replacement of references to "RESNET" and "HERS" with industry-standard terms**
				Issue: ENERGY STAR program documentation makes direct references to the Residential Energy Services Network (RESNET) and its Home Energy Rating System (HERS) Index. To date, RESNET is the only national EPA-approved Verification Oversight Organization (VOO), though EPA has provided a process by which other VOO's can be recognized. In addition, when Version 3 of the program requirements was first released, the Home Energy Rating System was a proprietary standard. Since that time, RESNET has created an ANSI-standard version – ANSI / RESNET/ ICC Std. 301. Partners have asked whether these terms should be updated to reflect industry-standard terms.
				Resolution: Because EPA has a process by which additional VOO's can operate using ANSI / RESNET / ICC Std. 301, references to RESNET will be revised as appropriate to reflect industry-standard terms. The terms RESNET and HERS will be replaced in all program documents with the industry-standard terms "EPA-Approved Verification Oversight Organization" and "ERI" respectively.
00686	**09/01/2018**	**All National & Regional Program Documents**	**Refinement**	**Footer – Removal of implementation date**
				Issue: The permit date in the footer of all program documents, which is intended to communicate the enforcement date of a given Revision, has the potential to cause confusion. This is because implementation timelines for Versions of the program are contained in a different location, the Effective Date Sections of the program requirements documents. Therefore, partners must cross-reference these documents to determine which date is applicable.
				Resolution: To reduce unnecessary complexity and avoid potential confusion, the implementation dates for Revisions and their associated Footnotes will be removed from the footers of program documents. Furthermore, these dates will be integrated into the Effective Date Sections of the program requirements documents, per Policy Record Entries 00690, 00694, 00722, 00725, 00729, 00739, and 00749.
00581	**06/03/2016**	**National Program Requirements (Version 3, Rev. 08)**	**Comment**	**Continued implementation of Version 3 in Alabama**
				Issue: Partners have questioned whether a Version 3.1 implementation date will be defined in response to the latest version of the Alabama Energy and Residential Code. This code, with an enforcement date of 10/01/2016, incorporates the 2015 IECC with substantive amendments.
				Resolution: An analysis was completed to estimate the savings of a Version 3 home relative to the latest version of the Alabama Energy and Residential Code. This analysis yielded a

				weighted average savings over 10%. Because Version 3 continues to offer meaningful savings in Alabama relative to the latest code, Version 3.1 will not be implemented in Alabama at this time. Version 3.1 will not be implemented in Alabama until another state-level code update occurs or until EPA defines a nationwide implementation date for Version 3.1.
00618	**09/01/2017**	**National Program Requirements (Version 3, Rev. 08)**	**Comment**	**Continued implementation of Version 3 in Utah**
				Issue: Partners have questioned whether a Version 3.1 implementation date will be defined in response to the latest version of Utah's residential building energy code. This code, with an enforcement date of 6/1/2016, incorporates the 2015 IECC with substantive amendments.
				Resolution: An analysis was completed to estimate the savings of a Version 3 home relative to the latest version of Utah's residential building energy code. This analysis yielded a weighted average savings over 10%. Because Version 3 continues to offer meaningful savings in Utah relative to the latest code, Version 3.1 will not be implemented in Utah at this time. Version 3.1 will not be implemented in Utah until another state-level code update occurs or until EPA defines a nationwide implementation date for Version 3.1.
00619	**09/01/2017**	**National Program Requirements (Version 3, Rev. 08)**	**Comment**	**Continued implementation of Version 3 in Ohio**
				Issue: Partners have questioned whether a Version 3.1 implementation date will be defined in response to Ohio's adoption of the 2015 IECC for commercial buildings and a sub-segment of multifamily dwelling units. The multifamily sub-segment that this code applies to is dwelling units in buildings that are 3 stories where this is not an independent means of egress from each unit, as well as units in buildings that are 4 and 5 stories. This code, with an enforcement date of 01/01/2017, incorporates the 2015 IECC with substantive amendments.
				Resolution: An analysis was completed to estimate the savings of a Version 3 dwelling unit in a low-rise multifamily building covered by the Ohio code update relative to a dwelling unit complying with the 2015 IECC. Although this analysis yielded average savings lower than 10% for this sub-segment, the current participants of the program rarely build multifamily units that would be impacted by the new code. In addition, Version 3 continues to offer meaningful savings for single family homes and for multifamily dwelling units not encompassed by the new code. Because of this, and the complexity of attempting to implement two different versions of the program in the same state, Version 3.1 will not be implemented in Ohio at this time. Version 3.1 will not be implemented in Ohio until another state-level code update occurs or until EPA defines a nationwide implementation date for Version 3.1.
00648	**12/13/2017**	**National Program Requirements (Version 3, Rev. 08)**	**Comment**	**Continued implementation of Version 3 in Idaho**
				Issue: Partners have questioned whether a Version 3.1 implementation date will be defined in response to the latest version of Idaho's residential building energy code. This code, with an enforcement date of 1/1/2018, incorporates the 2015 IECC with substantive amendments.

				Resolution: An analysis was completed to estimate the savings of a Version 3 home relative to the latest version of Idaho's residential building energy code. This analysis yielded a weighted average savings over 10%. Because Version 3 continues to offer meaningful savings in Idaho relative to the latest code, Version 3.1 will not be implemented in Idaho at this time. Version 3.1 will not be implemented in Idaho until another state-level code update occurs or until EPA defines a nationwide implementation date for Version 3.1.
00687	**09/01/2018**	**National Program Requirements (Version 3, Rev. 08)**	**Change**	**Elimination of plant-certification pathway for modular homes**
				Issue: Currently, there are two paths for modular homes to earn ENERGY STAR certification: • A Rater-verification path, where a Rater is responsible for verifying all program requirements. This may require the Rater to complete inspections in the plant for features that are concealed prior to shipment, as well as complete inspections on-site. • A plant-certification path, where a Quality Assurance Provider (QAP) certifies that the plant has processes in place to consistently incorporate ENERGY STAR requirements into their production. In this path, the plant is responsible for the verification of some items, while a Rater is responsible for completing the verification process on-site. The existence of two pathways increases the complexity of the program. Furthermore, in the case of the plant-certification path, the division of verification responsibilities between two different parties has occasionally created confusion. EPA evaluated the use of the plant-certification path by partners, and found that only 36 homes were certified by three plants using this path in 2016. Upon conducting outreach with these three partners, none felt strongly about maintaining this path.
				Resolution: The plant-certification path for modular homes will be eliminated because it is not frequently utilized and may be causing confusion among partners. To further clarify the remaining certification process for modular homes, the Eligibility Requirements section will be updated to explicitly encompass modular homes and the ENERGY STAR Certification Process section will be updated to indicate that a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, the Version of the program requirements applicable to a modular home, which is currently based upon the home's "sale date", will be changed to be based upon the "permit date", to align with the policy for other site-built homes. To reflect these changes, the first line of the "Eligibility Requirements" section will be revised as follows: "The following site-built or modular homes are eligible to earn the ENERGY STAR:"

				The following sentence will be added to Step 4 of the ENERGY STAR Certification Process section: "For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment." And a new Footnote, Footnote 1, will be added that reads as follows: "A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre–built sections are transported to the building site and constructed by a builder to meet all applicable building codes for site–built homes."
00603	**02/23/2017**	**National Program Requirements (Version 3, Rev. 08)**	**Change**	**Eligibility Requirements - Criteria for dwelling units in four and five story buildings**
				Issue: Partners have indicated that the eligibility requirements for dwelling units in four and five story buildings sometimes cause unintended challenges. Currently, dwelling units with their own heating, cooling, and hot water systems are generally required to be certified using the ENERGY STAR certified homes program, while units with shared systems must be certified using the ENERGY STAR Multifamily High-Rise program. Because the requirements are substantially different between the two programs, and the decision to use individual or shared systems is sometimes beyond the control of the design team, including the system type in the eligibility requirements is causing the unintended challenges. Dwelling units with shared systems were initially excluded due to a lack of modeling guidance readily available to Raters. With the availability of RESNET's Guidelines for Multifamily Ratings, modeling guidance is now available to address the most common central heating, cooling and hot water systems used in multifamily buildings.
				Resolution: To address the challenges that partners are experiencing with the current eligibility requirements, the criteria related to heating, cooling, and hot water systems will be removed from the national program requirements. The eligibility requirement in the fourth bullet of the Eligibility Requirements section will be revised to state: "Dwelling units in multifamily buildings with 4 or 5 stories above-grade where dwelling units occupy 80% or more of the occupiable square footage of the building[4,5]. When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met." Footnote 4 will be revised to state: "These units may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program. If participating in the Certified Homes Program and the dwelling unit is served by a central heating, cooling, or hot water system, use of the RESNET Guidelines for Multifamily Ratings for modeling the specified central system(s) is recommended."

				Footnote 5 will be revised to state: "If permitted prior to July 1, 2012, units in multifamily buildings with 4 or 5 stories above-grade may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program, without assessing whether the 80% threshold has been met."
00604	**02/23/2017**	**National Program Requirements (Version 3, Rev. 08)**	**Change**	**Determining stories in multifamily buildings with partial floors**
				Issue: Partners have asked whether partial floors in multifamily buildings (e.g., a penthouse, a loft, or a mezzanine) contribute to the total number of stories for the purposes of determining eligibility to participate in the program.
				Resolution: Not all partial floors in multifamily buildings should contribute to the total number of stories for the purposes of determining eligibility to participate in the program. First, consistent with the 2012 IRC, a loft or mezzanine is defined as an intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located. When determining the number of stories of a multifamily building, a partial floor that meets the definition of a loft or mezzanine shall not count as a story. For example, if the lower floor area of a dwelling unit is 100 sq. ft. and a partial second floor is 25 sq. ft., then the partial second floor is 20% of the total floor area of the dwelling unit (25/125 = 20%). Because 20% is less than 33%, the partial second floor is considered a loft or mezzanine and does not count as a story.
00688	**09/01/2018**	**National Program Requirements (Version 3, Rev. 08)**	**Clarification**	**Explicit requirement for homes to be registered and receive rating**
				Issue: While implied, there is currently no language in the ENERGY STAR Certification Process section that explicitly requires partners to register homes with an EPA-approved Verification Oversight Organization (VOO) such as RESNET. This step is critical to ensure that the home is encompassed by the quality assurance protocols defined by that VOO.
				Resolution: In order to ensure that ENERGY STAR certified homes are encompassed by a VOO's quality assurance protocols, ENERGY STAR Certified Homes will be explicitly required to receive a rating and be registered with an EPA-approved VOO. The first paragraph under Step 4 of the ENERGY STAR Certification Process will be updated as follows: "4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the on-site inspection procedures for minimum rated features of an EPA-Approved VOO. Finally, register the rated home with the same EPA-Approved VOO. The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report."
00689	**09/01/2018**		**Refinement**	**Exhibit 1 - ENERGY STAR certified products specification versions**

		National Program Requirements (Version 3, Rev. 08)		**Issue:** Partners have noted the efficiency levels of ENERGY STAR certified products in Exhibit 1: ENERGY STAR Reference Design Home may not always align with the efficiency levels in the most recent specification of an ENERGY STAR certified product. They have asked why this is the case and whether revisions to ENERGY STAR product specifications impact the program requirements.
				Resolution: Efficiency levels of products described as "ENERGY STAR" in the Reference Design Home aligned with the specifications for the ENERGY STAR certified product when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. This clarification will be reflected in a new Footnote to Exhibit 1: ENERGY STAR Reference Design Home as follows: "Note that the efficiency levels of ENERGY STAR certified products aligned with these product specifications when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. EPA recommends, but does not require, that current ENERGY STAR products be included in ENERGY STAR homes. For current ENERGY STAR products, visit www.energystar.gov/products."
00763	**09/01/2018**	**National Program Requirements (Version 3, Rev. 08)**	**Refinement**	**Exhibit 1 and Footnote 9 - References updated to latest RESNET standard**
				Issue: This document contains numerous references to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current references are outdated.
				Resolution: References to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edits will be made: • In the Envelope, Window, & Doors Section: "Insulation levels modeled to 2009 IECC levels and Grade I installation per ANSI / RESNET / ICC Standard 301." • In the Lighting & Appliances Section: "ENERGY STAR light bulbs modeled in 80% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations." • Footnote 9: "…A bedroom is defined by ANSI / RESNET / ICC Standard 301-2014 as…" In addition, where a specific version of Standard 301 is not specified, a new Footnote will be added as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings is used to model this parameter. "

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00690	**09/01/2018**	**National Program Requirements (Version 3, Rev. 08)**	**Refinement**	**Effective Date Section – Revised structure and format of Implementation Timeline**

Issue: The Effective Date Section varies in structure across program requirements, creating potential confusion. In addition, the implementation timeline information contained within the Exhibit in this Section does not consistently document prior and future Versions of the program, and does not currently incorporate the implementation timelines of both Versions and Revisions.

Resolution: To help ensure partners are aware of the implementation timeline(s) applicable to the homes that they certify, the Effective Date section will be revised to make the overall structure consistent. Furthermore, the Exhibit containing the implementation timelines will be revised to include the Version(s) and Revision(s) that was applicable for the two years prior to the date of publication, as well as all future Versions and Revisions that are applicable to each location. With this refinement to the Exhibit, the first sentence of Footnote 11 will be removed as the revised Implementation Timeline contains this information. These refinements will be reflected as follows:

"**Effective Date**

To determine the program Version and Revision that a home is required to be certified under, look up the location and permit date of the home in Exhibit 4. Note that the National Version 3.1 program requirements are being implemented in states that have adopted the 2012, 2015, or 2018 IECC, or an equivalent code. Note, as well, that regional program requirements, and associated implementation timelines, have been developed for homes in CA, FL, GU, HI, the Northern Mariana Islands, OR, PR, and WA. The National Version 3.1 and regional program requirements can be found at www.energystar.gov/newhomesrequirements.

This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov."

Exhibit 4: ENERGY STAR Certified Homes Implementation Timeline

State / Territory	Homes Permitted On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision
AL, AK, AZ, AR, CO, GA, IN, ID, KS, KY, LA, ME, MS, MO, NE, NH, NM, NC, ND, OH, OK, PA, SC, SD, TN, UT, VA, WV, WI, WY	07-01-2016	National v3	Rev. 08
	01-01-2019	National v3	Rev. 09

					DC, DE, IA, IL, MA, MD, MN, MT, RI, VT	07-01-2016	National v3.1	Rev. 08
						01-01-2019	National v3.1	Rev. 09
					NV	07-01-2016	National v3	Rev. 08
						10-01-2016	National v3.1	Rev. 08
						01-01-2019	National v3.1	Rev. 09
					MI, NJ	07-01-2016	National v3	Rev. 08
						04-01-2017	National v3.1	Rev. 08
						01-01-2019	National v3.1	Rev. 09
					CT, NY	07-01-2016	National v3	Rev. 08
						10-01-2017	National v3.1	Rev. 08
						01-01-2019	National v3.1	Rev. 09
					TX	07-01-2016	National v3	Rev. 08
						07-01-2018	National v3.1	Rev. 08
						01-01-2019	National v3.1	Rev. 09
00586	**06/30/2016**	**National Program Requirements (Version 3, Rev. 08)**	**Change**	**Exhibit 4 – Extension of NV v3.1 implementation timeline**				
				Issue: Partners have requested that EPA extend the implementation timeline for v3.1 in NV. They have indicated that they need additional time to prepare to meet Version 3.1 in the most cost-effective manner. This entails procuring new efficiency measures previously unavailable or with limited availability in their marketplace (e.g., high-efficiency storage water heaters) and changing construction practices (e.g., converting to a conditioned attic).				
				Resolution: Because partners are not fully prepared to transition on 07/01/2016, and because a short extension will have a meaningful impact on the ease with which they can certify homes under v3.1, EPA will extend the implementation date to homes permitted on or after 10/01/2016.				

				Going forward, EPA will be even more proactive with partners in states with a v3.1 implementation timeline to help ensure that other extensions are not warranted. To reflect this change, the implementation timeline for NV in Exhibit 4 will be revised from 07/01/2016 to 10/01/2016.
00620	**09/01/2017**	**National Program Requirements (Version 3, Rev. 08)**	**Change**	**Exhibit 4 - Extension of TX v3.1 implementation timeline**
				Issue: Partners have expressed difficulty meeting the Version 3.1 HERS Index Target for Climate Zone 3 in Texas, which has more aggressive targets relative to other climate zones. In order to address difficulties faced by these partners, and maintain the program's goal of market transformation in TX and elsewhere, several changes will be made to the ENERGY STAR Reference Design Definitions. HERS software vendors, Raters, and builders will require additional time beyond the current v3.1 implementation date for TX of 10/01/2017 to respond to these changes.
				Resolution: The v3.1 implementation timeline for TX will be extended to provide sufficient time for HERS software to be released and for Raters to use the updated software to help their builders meet the Version 3.1 program requirements. Specifically, the v3.1 implementation timeline for TX will be extended from 10/01/2017 to 07/01/2018. To reflect this change, the implementation timeline for TX in Exhibit 4 will be revised from "On or after 10/01/2017" to "On or after 07/01/18".
00780	**09/01/2018**	**National Program Requirements (Version 3, Rev. 08)**	**Change**	**Exhibit 4 - Continued Use of Rev. 08 HVAC Design Report**
				Issue: Partners have noted that the HVAC Design Report is only required to be collected once per system design, even if multiple homes are built using this design. Due to the effort required to collect the HVAC Design Report, they have asked whether previously collected Rev. 08 documentation can continue to be used after the release of the next Revision of the program requirements, so long as no aspect of the system design changes.
				Resolution: Because the next Revision of the HVAC Design Report will not require collection of any additional information or impose any new requirements, and will maintain or increase compliance tolerances, a design documented using Rev. 08 of the HVAC Design Report would, by definition, meet the requirements of the next Revision. Therefore, previously collected Rev. 08 HVAC Design Reports will be permitted to be used after the release of the next Revision of the program requirements, so long as the no aspect of the system design changes. To reflect this change, a new Footnote will be added to Exhibit 4, as follows: "Homes certified under Rev. 09 of the program requirements are permitted to use either Rev. 08 or 09 of the National HVAC Design Report."
00691	**09/01/2018**		**Change**	**Elimination of plant-certification pathway for modular homes**

		National Program Requirements (Version 3.1, Rev. 08)		**Issue:** Currently, there are two paths for modular homes to earn ENERGY STAR certification: • A Rater-verification path, where a Rater is responsible for verifying all program requirements. This may require the Rater to complete inspections in the plant for features that are concealed prior to shipment, as well as complete inspections on-site. • A plant-certification path, where a Quality Assurance Provider (QAP) certifies that the plant has processes in place to consistently incorporate ENERGY STAR requirements into their production. In this path, the plant is responsible for the verification of some items, while a Rater is responsible for completing the verification process on-site. The existence of two pathways increases the complexity of the program. Furthermore, in the case of the plant-certification path, the division of verification responsibilities between two different parties has occasionally created confusion. EPA evaluated the use of the plant-certification path by partners, and found that only 36 homes were certified by three plants using this path in 2016. Upon conducting outreach with these three partners, none felt strongly about maintaining this path.
				Resolution: The plant-certification path for modular homes will be eliminated because it is not frequently utilized and may be causing confusion among partners. To further clarify the remaining certification process for modular homes, the Eligibility Requirements section will be updated to explicitly encompass modular homes and the ENERGY STAR Certification Process section will be updated to indicate that a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, the Version of the program requirements applicable to a modular home, which is currently based upon the home's "sale date", will be changed to be based upon the "permit date", to align with the policy for other site-built homes. To reflect these changes, the first line of the "Eligibility Requirements" section will be revised as follows: "The following site-built or modular homes are eligible to earn the ENERGY STAR:" The following sentence will be added to Step 4 of the ENERGY STAR Certification Process section: "For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment." And a new Footnote, Footnote 1, will be added that reads as follows: "A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre–built sections

				are transported to the building site and constructed by a builder to meet all applicable building codes for site–built homes.”
00605	**02/23/2017**	**National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Eligibility Requirements: Criteria for dwelling units in four and five story buildings**
				Issue: Partners have indicated that the eligibility requirements for dwelling units in four and five story buildings sometimes cause unintended challenges. Currently, dwelling units with their own heating, cooling, and hot water systems are generally required to be certified using the ENERGY STAR certified homes program, while units with shared systems must be certified using the ENERGY STAR Multifamily High-Rise program. Because the requirements are substantially different between the two programs, and the decision to use individual or shared systems is sometimes beyond the control of the design team, including the system type in the eligibility requirements is causing the unintended challenges. Dwelling units with shared systems were initially excluded due to a lack of modeling guidance readily available to ENERGY STAR Raters. With the availability of RESNET’s Guidelines for Multifamily Ratings, modeling guidance is now available to address the most common central heating, cooling and hot water systems used in multifamily buildings.
				Resolution: To address the challenges that partners are experiencing with the current eligibility requirements, the criteria related to heating, cooling, and hot water systems will be removed from the national program requirements. The eligibility requirement in the fourth bullet of the Eligibility Requirements section will be revised to state: “Dwelling units in multifamily buildings with 4 or 5 stories above-grade where dwelling units occupy 80% or more of the occupiable square footage of the building. When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.” Footnote 4 will be revised to state: “These units may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program. If participating in the Certified Homes Program and the dwelling unit is served by a central heating, cooling, or hot water system, use of the RESNET Guidelines for Multifamily Ratings for modeling the specified central system(s) is recommended.” Footnote 5 will be revised to state: “If permitted prior to July 1, 2012, units in multifamily buildings with 4 or 5 stories above-grade may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program, without assessing whether the 80% threshold has been met.”
00606	**02/23/2017**		**Change**	**Determining stories in multifamily buildings with partial floors**

		National Program Requirements (Version 3.1, Rev. 08)		**Issue:** Partners have asked whether partial floors in multifamily buildings (e.g., a penthouse, a loft, or a mezzanine) contribute to the total number of stories for the purposes of determining eligibility to participate in the program.
				Resolution: Not all partial floors in multifamily buildings should contribute to the total number of stories for the purposes of determining eligibility to participate in the program. First, consistent with the 2012 IRC, a loft or mezzanine is defined as an intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located. When determining the number of stories of a multifamily building, a partial floor that meets the definition of a loft or mezzanine shall not count as a story. For example, if the lower floor area of a dwelling unit is 100 sq. ft. and a partial second floor is 25 sq. ft., then the partial second floor is 20% of the total floor area of the dwelling unit (25/125 = 20%). Because 20% is less than 33%, the partial second floor is considered a loft or mezzanine and does not count as a story.
00621	**09/01/2017**	**National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Elimination of Size Adjustment Factor for HERS Index Target Calculation**
				Issue: Partners in Texas have expressed difficulty meeting the Version 3.1 ENERGY STAR HERS Index Target for Climate Zone 3, particularly for homes impacted the Size Adjustment Factor (SAF). The Version 3.1 ENERGY STAR HERS Index Targets in Climate Zone 3 are already among the most aggressive, even for homes not impacted by the SAF. While Partners indicated that a minority of homes are impacted by the SAF, for those that are impacted, Partners have expressed that few additional cost-effective measures are available at this time to compensate for the SAF.
				Resolution: In order to address the challenges Partners have had in meeting the ENERGY STAR HERS Index Target, while not significantly impacting energy savings, the SAF will be removed from the HERS Index Target Procedure. As a result, Exhibit 3: Benchmark Home and the associated Footnote 9 will be removed. Additionally, because of the removal of the SAF, the last sentence of Step 2 of the ENERGY STAR Certification Process, which reads “Furthermore, on-site power generation may only be used to meet the ENERGY STAR HERS Index Target for homes that are larger than the Benchmark Home and only for the incremental change in the ENERGY STAR HERS Index Target caused by the Size Adjustment Factor”, is no longer relevant and will therefore will be modified to say ”Furthermore, on-site power generation may not be used to meet the ENERGY STAR HERS Index Target.”
00692	**09/01/2018**		**Clarification**	**Explicit requirement for homes to be registered and receive rating**

		National Program Requirements (Version 3.1, Rev. 08)		**Issue:** While implied, there is currently no language in the ENERGY STAR Certification Process section that explicitly requires partners to register homes with an EPA-approved Verification Oversight Organization (VOO) such as RESNET. This step is critical to ensure that the home is encompassed by the quality assurance protocols defined by that VOO.
				Resolution: In order to ensure that ENERGY STAR certified homes are encompassed by a VOO's quality assurance protocols, ENERGY STAR Certified Homes will be explicitly required to receive a rating and be registered with an EPA-approved VOO. The first paragraph under Step 4 of the ENERGY STAR Certification Process will be updated as follows: "4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the on-site inspection procedures for minimum rated features of an EPA-Approved VOO. Finally, register the rated home with the same EPA-Approved VOO. The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report."
00693	**09/01/2018**	**National Program Requirements (Version 3.1, Rev. 08)**	**Refinement**	**Exhibit 1 - ENERGY STAR certified products specification versions**
				Issue: Partners have noted the efficiency levels of ENERGY STAR certified products in Exhibit 1: ENERGY STAR Reference Design Home may not always align with the efficiency levels in the most recent specification of an ENERGY STAR certified product. They have asked why this is the case and whether revisions to ENERGY STAR product specifications impact the program requirements.
				Resolution: Efficiency levels of products described as "ENERGY STAR" in the Reference Design Home aligned with the specifications for the ENERGY STAR certified product when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. This clarification will be reflected in a new Footnote to Exhibit 1: ENERGY STAR Reference Design Home as follows: "Note that the efficiency levels of ENERGY STAR certified products aligned with these product specifications when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. EPA recommends, but does not require, that current ENERGY STAR products be included in ENERGY STAR homes. For current ENERGY STAR products, visit www.energystar.gov/products."
00622	**09/01/2017**	**National Program Requirements**	**Change**	**Exhibit 1 – Climate Zone 3 furnace reduced from 90 to 80 AFUE**
				Issue: Partners have expressed difficulty meeting the Version 3.1 HERS Index Target for Climate Zone 3, which has more aggressive targets relative to other climate zones. Specifically,

		(Version 3.1, Rev. 08)		partners in TX have noted that 90 AFUE furnaces are rarely installed and not perceived to be cost-effective. While the use of a 90 AFUE furnace is not mandatory, the Version 3.1 ENERGY STAR Reference Design home is configured with one in Climate Zone 3. Partners have indicated that there are few cost-effective measures available to compensate when a 90 AFUE furnace is omitted. EPA analyzed the impact of changing the gas furnace efficiency from 90 AFUE to 80 AFUE in Climate Zone 3, and found that meaningful energy savings for the ENERGY STAR Reference Home were maintained.
				Resolution: In order to address the challenges Partners have had in meeting the HERS Index Target for Climate Zone 3, while maintaining meaningful energy savings, the Gas Furnace AFUE for CZ 3 will be revised to 80 AFUE by updating the first bullet for Hot Climates in the Heating Equipment section of Exhibit 1 to "80 AFUE gas furnace,".
00764	**09/01/2018**	**National Program Requirements (Version 3.1, Rev. 08)**	**Refinement**	**Exhibit 1 - References updated to latest RESNET standard**
				Issue: This document contains numerous references to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current references are outdated.
				Resolution: References to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edits will be made: • In the Envelope, Window, & Doors Section: "Insulation levels modeled to 2012 IECC levels and Grade I installation per ANSI / RESNET / ICC Standard 301" • In the Lighting & Appliances Section: "ENERGY STAR light bulbs modeled in 90% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations." In addition, where a specific version of Standard 301 is not specified, a new Footnote will be added as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings is used to model this parameter."
00694	**09/01/2018**	**National Program Requirements (Version 3.1, Rev. 08)**	**Refinement**	**Effective Date Section – Revised structure and format of Implementation Timeline**
				Issue: The Effective Date Section varies in structure across program requirements, creating potential confusion. In addition, the implementation timeline information contained within the Exhibit in this Section does not consistently document prior and future Versions of the program, and does not currently incorporate the implementation timelines of both Versions and Revisions
				Resolution: To help ensure partners are aware of the implementation timeline(s) applicable to the homes that they certify, the Effective Date section will be revised to make the overall structure consistent. Furthermore, the Exhibit containing the implementation timelines will be revised to include the Version(s) and Revision(s) that was applicable for the two years prior to

the date of publication, as well as all future Versions and Revisions that are applicable to each location. With this refinement to the Exhibit, the first sentence of Footnote 11 will be removed as the revised Implementation Timeline contains this information. These refinements will be reflected as follows:

Effective Date

To determine the program Version and Revision that a home is required to be certified under, look up the location and permit date of the home in Exhibit 4. Note that the National Version 3 program requirements are being implemented in states that have not adopted the 2012, 2015, or 2018 IECC, or an equivalent code. Note, as well, that regional program requirements, and associated implementation timelines, have been developed for homes in CA, FL, GU, HI, the Northern Mariana Islands, OR, PR, and WA. The National Version 3 and regional program requirements can be found at www.energystar.gov/newhomesrequirements.

This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.

Exhibit 4: ENERGY STAR Certified Homes Implementation Timeline

State / Territory	Homes Permitted On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision
AL, AK, AZ, AR, CO, GA, IN, ID, KS, KY, LA, ME, MS, MO, NE, NH, NM, NC, ND, OH, OK, PA, SC, SD, TN, UT, VA, WV, WI, WY	07-01-2016	National v3	Rev. 08
	01-01-2019	National v3	Rev. 09
DC, DE, IA, IL, MA, MD, MN, MT, RI, VT	07-01-2016	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09
NV	07-01-2016	National v3	Rev. 08
	10-01-2016	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09

				MI, NJ	07-01-2016	National v3	Rev. 08
					04-01-2017	National v3.1	Rev. 08
					01-01-2019	National v3.1	Rev. 09
				CT, NY	07-01-2016	National v3	Rev. 08
					10-01-2017	National v3.1	Rev. 08
					01-01-2019	National v3.1	Rev. 09
				TX	07-01-2016	National v3	Rev. 08
					07-01-2018	National v3.1	Rev. 08
					01-01-2019	National v3.1	Rev. 09
				WA	07-01-2016	National v3.1	Rev. 08
					07-01-2018	Oregon and Washington v3.2	Rev. 08
					01-01-2019	Oregon and Washington v3.2	Rev. 09
				OR	07-01-2016	National v3.1	Rev. 08
					01-01-2019	National v3.1	Rev. 09
					04-01-2019	Oregon and Washington v3.2	Rev. 09
00623	**09/01/2017**	**National Program Requirements (Version 3.1, Rev. 08)**	**Refinement**	**Effective Date – Implementation of Version 3.1 when 2015 IECC is adopted**			
				Issue: Policy Record Entry 00694 contains the most recent resolution of this issue. This issue (ID 00623) is only being retained to maintain a complete Policy Record. The Effective Date section states in part that the Version 3.1 Program Requirements will be implemented in states that have implemented the 2012 IECC or equivalent. This section fails to mention that a Version 3.1 implementation date may be defined for states that have implemented the 2015 IECC.			
				Resolution: Policy Record Entry 00694 contains the most recent resolution of this issue. This issue (ID 00623) is only being retained to maintain a complete Policy Record. To reflect the fact that EPA intends to implement the Version 3.1 program requirements in states that have			

<table>
<tr><td></td><td></td><td></td><td></td><td>adopted the 2012 IECC, 2015 IECC, or equivalent code, the first sentence under the Effective Date Section will be updated to read:
“EPA intends to implement the Version 3.1 program requirements for homes permitted starting one year after state-level implementation of the 2012 IECC, 2015 IECC, or an equivalent code”.</td></tr>
<tr><td rowspan="3">00582</td><td rowspan="3">06/03/2016</td><td rowspan="3">National Program Requirements (Version 3.1, Rev. 08)</td><td rowspan="3">Change</td><td>Implementation Date for MI and NY</td></tr>
<tr><td>Issue: Michigan and New York have recently adopted more efficient residential energy codes. As a result, once the new codes are fully implemented, Version 3 of the National Program Requirements will no longer provide meaningful savings relative to code-compliant non-certified homes in these states.</td></tr>
<tr><td>Resolution: To continue to provide meaningful savings relative to non-certified homes in states that have adopted more rigorous codes, a Version 3.1 implementation date has been defined for Michigan and New York. To reflect this change, Exhibit 4 will be modified as follows:
<table>
<tr><th>State</th><th>Applicable to Homes with the Following Permit Date</th></tr>
<tr><td>MA</td><td>On or after 01/01/2015</td></tr>
<tr><td>DC, IL, MD, RI</td><td>On or after 04/01/2015 (except for Calvert County and St. Mary’s County in MD, for which the applicable permit date is on or after 07/01/02015).</td></tr>
<tr><td>IA</td><td>On or after 06/01/2015</td></tr>
<tr><td>DE</td><td>On or after 12/01/2015</td></tr>
<tr><td>MT, OR, WA</td><td>On or after 01/01/2016</td></tr>
<tr><td>MN, VT</td><td>On or after 04/01/2016</td></tr>
<tr><td>NV</td><td>On or after 07/01/2016</td></tr>
<tr><td>MI, NJ</td><td>On or after 04/01/2017</td></tr>
<tr><td>NY, TX</td><td>On or after 10/01/2017</td></tr>
</table></td></tr>
<tr><td rowspan="2">00601</td><td rowspan="2">10/01/2016</td><td rowspan="2">National Program Requirements (Version 3.1, Rev. 08)</td><td rowspan="2">Change</td><td>Implementation Date for CT</td></tr>
<tr><td>Issue: Connecticut has recently adopted a more efficient residential energy code. As a result, once the new code is fully implemented, Version 3 of the National Program Requirements will no longer provide meaningful savings relative to code-compliant non-certified homes in this state.</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td>Resolution: To continue to provide meaningful savings relative to non-certified homes in states that have adopted more rigorous codes, a Version 3.1 implementation date has been defined for Connecticut. To reflect this change, Exhibit 4 will be modified as follows:
<table>
<tr><th>State</th><th>Applicable to Homes with the Following Permit Date</th></tr>
<tr><td>MA</td><td>On or after 01/01/2015</td></tr>
<tr><td>DC, IL, MD, RI</td><td>On or after 04/01/2015 (except for Calvert County and St. Mary’s County in MD, for which the applicable permit date is on or after 07/01/02015).</td></tr>
<tr><td>IA</td><td>On or after 06/01/2015</td></tr>
<tr><td>DE</td><td>On or after 12/01/2015</td></tr>
<tr><td>MT, OR, WA</td><td>On or after 01/01/2016</td></tr>
<tr><td>MN, VT</td><td>On or after 04/01/2016</td></tr>
<tr><td>NV</td><td>On or after 07/01/2016</td></tr>
<tr><td>MI, NJ</td><td>On or after 04/01/2017</td></tr>
<tr><td>CT, NY, TX</td><td>On or after 10/01/2017</td></tr>
</table></td></tr>
<tr><td>00587</td><td>06/30/2016</td><td>National Program Requirements (Version 3.1, Rev. 08)</td><td>Change</td><td>Exhibit 4 – Extension of NV v3.1 implementation timeline</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Issue: Partners have requested that EPA extend the implementation timeline for v3.1 in NV. They have indicated that they need additional time to prepare to meet Version 3.1 in the most cost-effective manner. This entails procuring new efficiency measures previously unavailable or with limited availability in their marketplace (e.g., high-efficiency storage water heaters) and changing construction practices (e.g., converting to a conditioned attic).</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Resolution: Because partners are not fully prepared to transition on 07/01/2016, and because a short extension will have a meaningful impact on the ease with which they can certify homes under v3.1, EPA will extend the implementation date to homes permitted on or after 10/01/2016.
Going forward, EPA will be even more proactive with partners in states with a v3.1 implementation timeline to help ensure that other extensions are not warranted.
To reflect this change, the implementation timeline for NV in Exhibit 4 will be revised from 07/01/2016 to 10/01/2016.</td></tr>
</table>

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00624	**09/01/2017**	**National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Exhibit 4 - Extension of TX v3.1 implementation timeline**
				Issue: Partners have expressed difficulty meeting the Version 3.1 HERS Index Target for Climate Zone 3 in Texas, which has more aggressive targets relative to other climate zones. In order to address difficulties faced by these partners, and maintain the program's goal of market transformation in TX and elsewhere, several changes will be made to the ENERGY STAR Reference Design Definitions. HERS software vendors, Raters, and builders will require additional time beyond the current v3.1 implementation date for TX of 10/01/2017 to respond to these changes.
				Resolution: The v3.1 implementation timeline for TX will be extended to provide sufficient time for HERS software to be released and for Raters to use the updated software to help their builders meet the Version 3.1 program requirements. Specifically, the v3.1 implementation timeline for TX will be extended from 10/01/2017 to 07/01/2018. To reflect this change, the implementation timeline for TX in Exhibit 4 will be revised from "On or after 10/01/2017" to "On or after 07/01/18".
00781	**09/01/2018**	**National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Exhibit 4 - Continued Use of Rev. 08 HVAC Design Report**
				Issue: Partners have noted that the HVAC Design Report is only required to be collected once per system design, even if multiple homes are built using this design. Due to the effort required to collect the HVAC Design Report, they have asked whether previously collected Rev. 08 documentation can continue to be used after the release of the next Revision of the program requirements, so long as no aspect of the system design changes.
				Resolution: Because the next Revision of the HVAC Design Report will not require collection of any additional information or impose any new requirements, and will maintain or increase compliance tolerances, a design documented using Rev. 08 of the HVAC Design Report would, by definition, meet the requirements of the next Revision. Therefore, previously collected Rev. 08 HVAC Design Reports will be permitted to be used after the release of the next Revision of the program requirements, so long as the no aspect of the system design changes. To reflect this change, a new Footnote will be added to Exhibit 4, as follows: "Homes certified under Rev. 09 of the program requirements are permitted to use either Rev. 08 or 09 of the National HVAC Design Report."
00017	**07/25/2011**	**Thermal Enclosure System Rater Checklist (Version 3, Rev. 04)**	**Issue Under Review**	**Use of infrared thermography**
				Issue: Partners have asked if infrared thermography can be used to complete the Thermal Enclosure System Rater Checklist.
				Resolution: [Issue under review.]
00111	**01/15/2012**			**Item 2.2 & Item 4.4.1 – Reflective insulation**

		Thermal Enclosure System Rater Checklist (Version 3, Rev. 04)	**Issue Under Review**	**Issue:** Partners have asked for permission to use radiant barrier house wrap as reflective insulation for the purpose of fulfilling Items 2.2 and 4.4.1. Policy Record Entry 00024 did not allow this practice because the R-values for reflective insulation products rely on air spaces that are not integral to the products and because the ICC Evaluation Service typically classifies such products as weather barriers rather than as insulation products. In response to this guidance, partners have asked EPA to reevaluate the acceptability of reflective insulation products on the grounds that they reduce heat transfer when installed properly, they are treated as insulation products under the Federal Trade Commission 16 CFR Part 460 – Labeling and Advertising of Home Insulation, and there are applicable standards that govern their specification and installation (ASTM C727 and ASTM C1224).
				Resolution: [Issue under review.]
00149	**01/15/2012**	**HVAC System Quality Installation Rater Checklist (Version 3, Rev. 04)**	**Issue Under Review**	**Section 11 – Filtration for mechanical ventilation**
				Issue: Partners have asked if Section 11, related to filtration, applies to mechanical ventilation systems.
				Resolution: [Issue under review.]
00662	**06/29/2018**	**Rater Design Review Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to “National Rater Design Review Checklist (Version 3 / 3.1, Rev. 08)”. Additionally, any references to this document in other program documents will be updated to use the updated title.
00695	**09/01/2018**	**Rater Design Review Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Checklist separated into standalone document**
				Issue: Partners have requested that this Checklist be separated from the Rater Field Checklist into its own document to better align with the typical certification workflow and because of the potential confusion that results when the two Checklists are within the same document.
				Resolution: To avoid any confusion between this checklist and the Rater Field Checklist, the Checklists will be separated into their own individual documents. Note this will not change the content of the documents, but may result in minor formatting changes.
00554	**04/01/2016**	**Rater Design Review Checklist**	**Change**	**Section 2 – Allowance for triple-glazed windows in PHIUS+ and PHI certified homes**
				Issue: Several partners have requested that the triple-glazed window alternative provided in Footnote 3 of Item 2.1 for homes certified through the Passive House Institute US (PHIUS+) be

		(Version 3 / 3.1, Rev. 08)		extended to homes certified through the Passive House Institute (PHI). Homes certified through these organizations include mandatory requirements for very high performance windows, some of which are not NFRC rated because they are produced in Europe.
				Resolution: To avoid discouraging participation in the ENERGY STAR certified homes program of these highly efficient homes, the alternative will be extended to Passive House Institute (PHI) homes. Footnote 3 will be modified to reference PHI certified homes in addition to PHIUS+ homes as follows: "In PHIUS+ or PHI certified homes, where triple-glazed window assemblies with thermal breaks / spacers between the panes are used, such windows meet the intent of Item 2.1 and shall be excluded when assessing compliance of a) through e), above."
00765	**09/01/2018**	**Rater Design Review Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Item 4.2.1 – Design temperature limits added for US Territories**
				Issue: The Design Temperature Limit Reference Guide was updated to include design temperature limits for US Territories, in addition to the limits already included for counties and states. Currently, Item 4.2.1 only references counties and states.
				Resolution: The reference to 'State and County' in Item 4.2.1 will be updated to read 'State and County, or US Territory' to reflect the inclusion of territories in the Design Temperature Limit Reference Guide.
00583	**06/03/2016**	**Rater Design Review Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Item 4.2.3 - Increased Tolerance for Conditioned Floor Area used in HVAC Design Report**
				Issue: Partners have noted an issue with the allowable tolerance between the conditioned floor area used in loads and that of the home to be certified. The allowable tolerance does not permit the conditioned floor area used in the loads to be any smaller than the home to be certified, even when such a deviation will not significantly affect the load. For example, if the designer calculates conditioned floor area by measuring from the interior drywall to interior drywall, while the Rater measures from the exterior to the exterior, the designer will end up with a smaller conditioned floor area, resulting in a failure despite negligible impacts on the load calculation.
				Resolution: The tolerance will be changed to allow the conditioned floor area used in loads to fall between 100 sq. ft smaller and 300 sq. ft. larger than the home to be certified. This change recognizes that if the conditioned floor area used in the loads is slightly smaller than the home to be certified, the overall accuracy of the load will not be greatly compromised. To reflect this change, Item 4.2.3 will be revised to read: "Conditioned floor area used in loads (3.5) is between 100 sq. ft smaller and 300 sq. ft. larger than the home to be certified"

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00663	**06/29/2018**	**Rater Design Review Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Item 4.2.4 - Increased tolerance for window area used in HVAC Design Report**
				Issue: Partners have noted two issues with the allowable tolerance between the window area used in loads and that of the home to be certified. The first issue is that the low-end tolerance does not permit the window area used in the loads to be any smaller than the home to be certified, even when such a deviation will not significantly affect the load. For example, if the designer calculates the load with even one less sq. ft. of window area than what the home to be certified contains (e.g., due to an imprecise take-off), then the home would not strictly meet the intent of this item. The second issue is that as the window area in the home increases, the fixed tolerances become increasingly restrictive. That is to say, while the high-end tolerance of 60 sq. ft. may be routinely achievable for a typical home, as the window area increases the 60 sq ft. tolerance becomes a smaller percentage of the overall window area. Outreach was conducted with multiple partners in different climate zones. Partners indicated that it would be helpful to increase the low-end tolerance to allow the window area used in the loads to be slightly smaller than the home to be certified. Partners also indicated that adding a percent-based tolerance would be helpful to address the second issue
				Resolution: The tolerance will be changed to allow the window area used in loads to fall between 15 sq. ft. smaller and 60 sq. ft. larger than the home to be certified. This change recognizes that if the window area used in the load calculations is slightly smaller than the home to be certified, the overall accuracy of the load will not be greatly compromised. Additionally, for homes to be certified with greater than 500 sq. ft. of window area, the tolerances will be changed to use a percentage of window area. To reflect this change, Item 4.2.4 will be revised to read: "Window area used in loads (3.6) is between 15 sq. ft. smaller and 60 sq. ft. larger than the home to be certified, or, for homes to be certified with > 500 sq. ft. of window area, between 3% smaller and 12% larger"
00766	**09/01/2018**	**Rater Design Review Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Footnote 9 - References updated to latest RESNET standard**
				Issue: This document contains a reference to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current reference is outdated.
				Resolution: The reference to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edit will be made: • Footnote 9: "…A bedroom is defined by ANSI / RESNET / ICC Standard 301-2014 as…"

00664	**06/29/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to "National Rater Field Checklist (Version 3 / 3.1, Rev. 08)". Additionally, any references to this document in other program documents will be updated to use the updated title.
00696	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Checklist separated into standalone document**
				Issue: Partners have requested that this Checklist be separated from the Rater Design Review Checklist into its own document to better align with the typical certification workflow and because of the potential confusion that results when the two Checklists are within the same document.
				Resolution: To avoid any confusion between this checklist and the Rater Design Review Checklist, the Checklists will be separated into their own individual documents. Note this will not change the content of the documents, but may result in minor formatting changes.
00625	**09/01/2017**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 1.3 – Grade I insulation not required in adiabatic assemblies**
				Issue: Partners have asked whether insulation in adiabatic assemblies must achieve Grade I installation, per Item 1.3.
				Resolution: The primary intent of requiring Grade I insulation installation is to help ensure that a complete thermal enclosure system is provided for a home. Because insulation in adiabatic assemblies is not used to reduce heat transfer, such insulation is not required to achieve Grade I installation. However, it is recommended that insulation in adiabatic assemblies be installed to achieve Grade I so that the rated performance of its intended purpose (e.g., sound dampening, fire protection) is achieved. EPA also cautions Raters to carefully evaluate whether an assembly is truly adiabatic. For example, a common wall between townhomes may be adiabatic in some areas and non-adiabatic in other areas. Grade I insulation would be required in the non-adiabatic portions and recommended in the remainder of the wall.
00767	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Item 1.3 - References updated to latest RESNET standard**
				Issue: This document contains a reference to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current reference is outdated.
				Resolution: The reference to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edit will be made:

				• Item 1.3: "All insulation achieves Grade I installation per ANSI / RESNET / ICC Standard 301…" In addition, where a specific version of Standard 301 is not specified, a new Footnote will be added as follows: "Ensure compliance with this requirement using the version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings. "
00626	**09/01/2017**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 3.2 – Post-tensioned slabs exempted from insulation requirement**
				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 slab edge when the slab is on grade. EPA already provides several exemptions, one of which relates to post-tensioned slabs that extend from conditioned to unconditioned space. Partners have recently asked if all post-tensioned slabs have been exempted, or only those that extend from conditioned to unconditioned space.
				Resolution: The rationale for providing the exemption for post-tensioned slabs that extend from conditioned to unconditioned space also applies more generally to all post-tensioned slabs (i.e., the challenge of accessing the tensioning cable anchors behind insulation and due to the movement of the slab during the tensioning process). Therefore, the first exemption on the Slab Edge Insulation Exemption Details document will be retitled to "Exempted Slab Edge Detail 1: Post-Tensioned Slabs" and the exemption will be edited as follows: "The edge of a post-tensioned slab is not required to be insulated to satisfy Item 3.2. Furthermore, for the scenario illustrated in Figure 1, where a continuous post-tensioned slab extends from conditioned to unconditioned space (e.g., from conditioned space to an adjacent unconditioned garage, to a hallway, to a porch), insulation is not required to be provided at this boundary to satisfy Item 3.2. These exemptions are provided because of the challenge of accessing the tensioning cable anchors behind insulation and due to the movement of the slab during the tensioning process. These exemptions apply to both multifamily and single-family homes." EPA will continue to provide exemptions for details where a feasible means to insulate the slab edge has not been identified. Where partners identify such details, they shall provide the detail to EPA to request an exemption prior to the home's certification. EPA will compile exempted details and work with industry to develop feasible details for use in future revisions to the program. A list of currently exempted details is available at: energystar.gov/slabedge. 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.

00651	**02/07/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 6.2 – Other strategies for meeting pressure limit**
				Issue: Partners have asked whether other strategies, not listed in Item 6.2, may be used to meet the intent of this Item.
				Resolution: The strategies listed in Item 6.2 were intended as examples that are commonly used, and were not intended to prohibit the use of other strategies. Any strategy or combination of strategies may be used to meet the Rater-measured pressure limit. This includes strategies not listed in Item 6.2, such as ventilating or louvered doors. To reflect this clarification, Item 6.2 will be revised to read: "Bedrooms pressure-balanced (e.g., using transfer grills, jump ducts, dedicated return ducts, undercut doors) to achieve a Rater-measured pressure differential ≤ 3 Pa with respect to the main body of the house when all bedroom doors are closed and all air handlers are operating. See Footnote 34 for alternative."
00627	**09/01/2017**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 6.2 – Carpet Recommended to be Installed Prior to Bedroom Pressure Test**
				Issue: Raters have asked whether the bedroom pressure-balancing test must be conducted only after any carpeting has been installed.
				Resolution: Testing prior to the installation of carpet may allow additional air to flow beneath the door, resulting in a lower pressure differential (i.e., better result) than after the carpet is installed. However, requiring this test to be completed after the carpet is installed may increase the stringency of the program for some partners, as well as create a logistical challenge in some homes (e.g., where the carpet is installed immediately prior to closing). Therefore, EPA recommends, but does not require, that the bedroom pressure-balancing test be conducted after any carpeting has been installed.
00665	**06/29/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 6.2 – Low-end limit for bedroom pressure differential, and test configuration**
				Issue: Partners have asked whether the bedroom pressure-balancing limit of 3 Pa (or 5 Pa for bedrooms with a design airflow ≥ 150 CFM) signifies that any value below +3 Pa (or +5 Pa) is allowed or if it signifies that the pressure must fall between -3 Pa and +3 Pa (or -5 Pa and +5 Pa). Additionally, partners have asked whether doors to rooms that can only be entered from the bedroom (e.g., a closet, a bathroom) should be open or closed when verifying this requirement.
				Resolution: To clarify the intent and ensure more consistent enforcement of this Item, EPA will specify that there is a low-end bedroom pressure-balancing limit of -3 Pa (or -5 Pa for bedrooms with a design airflow ≥ 150 CFM), and a high-end limit of +3 Pa (or +5 Pa for bedrooms with a design airflow ≥ 150 CFM). Any measured value between these limits will meet this requirement. While the primary intent of this Item is to ensure an adequate return-air

				pathway, a secondary intent is to ensure that the return-air pathway is not so large that it significantly depressurizes the bedroom, potentially increasing infiltration. Additionally, EPA will clarify that when verifying this requirement doors separating bedrooms from the main body of the house (e.g., a door between a bedroom and a hallway) shall be closed and doors to rooms that can only be entered from the bedroom (e.g., a closet, a bathroom) shall be open. Specifying this door configuration will prevent airflow from being restricted within this space, while ensuring more consistent results. To clarify this intent, Item 6.2 will be revised as follows: "Bedrooms pressure-balanced (e.g., using transfer grilles, jump ducts, dedicated return ducts, undercut doors) to achieve a Rater-measured pressure differential ≥ -3 Pa and ≤ +3 Pa with respect to the main body of the house when all air handlers are operating. See Footnote 34 for test configuration and an alternative compliance option." And Footnote 34 will be revised as follows: "Item 6.2 does not apply to ventilation or exhaust ducts. For an HVAC system with a multi-speed fan, the highest design fan speed shall be used when verifying this requirement. When verifying this requirement, doors separating bedrooms from the main body of the house (e.g., a door between a bedroom and a hallway) shall be closed and doors to rooms that can only be entered from the bedroom (e.g., a closet, a bathroom) shall be open. As an alternative to the ± 3 Pa limit, a Rater-measured pressure differential ≥ -5 Pa and ≤ +5 Pa is permitted to be used for bedrooms with a design airflow ≥ 150 CFM. The Rater-measured pressure shall be rounded to the nearest whole number to assess compliance."
00628	**09/01/2017**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Item 6.4 and Footnote 41 - Clarification of Units for Duct Leakage Tolerances**
				Issue: Item 6.4 and Footnote 41 refer both to "CFM" and to "CFM25" when defining duct leakage tolerances. The term "CFM25" is intended to represent airflow measured in cubic feet per minute at a pressure of 25 Pa and is, therefore, applicable to all tolerances. The current use of the term "CFM" in some instances may cause confusion.
				Resolution: All instances of the term "CFM" in Item 6.4 and Footnote 41 will be replaced with "CFM25".
00629	**09/01/2017**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Item 7.2 – In multifamily, override control not required to be readily-accessible**
				Issue: Partners have asked whether, in multi-family dwelling units, the override control required by Item 7.2 must be readily accessible.
				Resolution: The latest edition of the standard that underpins this requirement, ASHRAE 62.2-2016, provides a new exception related to this issue. Section 4.4 of the standard states the following:

				"A readily accessible manual ON-OFF control, including but not limited to a fan switch or a dedicated branch-circuit overcurrent device, shall be provided. Controls shall include text or an icon indicating the system's function. Exception: For multifamily dwelling units, the manual ON-OFF control shall not be required to be readily accessible." Therefore, in multi-family dwelling units, the override control is not required to be readily accessible to the occupant. However, EPA recommends but does not require that the control be readily accessible to others (e.g., building maintenance staff) in lieu of the occupant. This exception is permitted to be used regardless of whether the partner's intent is to comply with the remainder of the 2010 or 2013 version of the standard. To reflect this change, a new Footnote will be added to Item 7.2, as follows: "In a multi-family dwelling unit, the override control is not required to be readily accessible to the occupant. However, in such cases, EPA recommends but does not require that the control be readily accessible to others (e.g., building maintenance staff) in lieu of the occupant."
00584	**06/03/2016**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Item 7.7.2 – Air inlet distance from dryer exhaust**
				Issue: The distance that air inlets must be from dryer exhausts was inadvertently left out of Item 7.7.2 during the transition to Revision 08.
				Resolution: To clarify that air inlets must be ≥ 3 ft. from dryer exhausts, Item 7.7.2 will be revised as follows: "Inlet is ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources (e.g., stack, vent, exhaust, vehicles) not exiting the roof, and ≥ 3 ft. distance from dryer exhausts and sources exiting the roof."
00423	**10/09/2015**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Item 8.1 Alternative kitchen exhaust rate for Passive House (PHI)**
				Issue: Several partners have requested that the alternative kitchen exhaust flow rate provided in Footnote 50 of Item 8.1 for homes certified by the Passive House Institute US (PHIUS+) be extended to homes certified by the Passive House Institute (PHI). Because homes certified under both organizations have mandatory infiltration limits that are extremely low, builders of these homes often use a continuously running balanced ventilation system to meet local mechanical exhaust requirements for kitchens. In such homes, partners have expressed difficulty complying with the ENERGY STAR program's requirements to meet the ASHRAE 62.2 local mechanical exhaust flow rate of 5 kitchen air changes per hour for continuously running fans.
				Resolution: To avoid discouraging participation in the ENERGY STAR certified homes program of these highly efficient homes, the alternative will be extended to Passive House

				Institute (PHI) homes. This alternative will remain in effect while DOE works to develop an ASRHAE 62.2-complaint solution optimized for very low-load homes. Footnote 50 will be modified to reference PHI certified homes in addition to PHIUS+ homes as follows: "As an alternative to Item 8.1, homes that are PHIUS+ or PHI certified are permitted to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3."
00649	**12/13/2017**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Item 8.1 and Footnote 50 – Alternative kitchen exhaust rate for select homes**
				Issue: Partners developing homes with extremely tight enclosures and balanced whole-house ventilation and local mechanical exhaust systems have expressed difficultly meeting the requirements of ASHRAE 62.2-2013 for local mechanical kitchen exhaust. The extremely tight enclosure, as tight as a PHIUS+ home, makes it difficult to use an exhaust-only system without pressure relief. Furthermore, balanced ventilation systems often don't have the ability to boost the local exhaust rate to the levels required by ASHRAE 62.2-2013. These constraints are analogous to those of a PHIUS+ or PHI certified home, for which an allowance is already provided to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3.
				Resolution: The current allowance to use a continuous kitchen exhaust rate of 25 CFM for PHIUS+ or PHI certified homes will be extended to homes that meet an equivalent infiltration limit and provide both whole-house ventilation and local mechanical kitchen exhaust using a balanced system. To reflect this change, the last sentence of Footnote 50 of the Rater Field Checklist will be revised as follows: "As an alternative to Item 8.1, homes are permitted to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3, if they are either a) PHIUS+ or PHI certified, or b) provide both whole-house ventilation and local mechanical kitchen exhaust using a balanced system, and have a Rater-verified whole-building infiltration rate ≤ 0.05 CFM50 per sq. ft. of Enclosure Area, and a Rater-verified dwelling unit compartmentalization rate ≤ 0.30 CFM50 per sq. ft. of Enclosure Area if multiple dwelling units are present in the building. 'Enclosure Area' is defined as the area of the surfaces that bound the volume being pressurized/depressurized during the test."
00588	**08/08/2016**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 9.1 – MERV 6 filters not mandatory for ERV / HRV systems**
				Issue: Partners have asked whether the requirements for a MERV 6 filter apply to ERV and HRV systems that have 10 ft. or more of ductwork. While these systems typically include a filter, they're often not MERV-rated and MERV-rated filters for these systems are not readily available.
				Resolution: Because it is difficult to obtain MERV-rated filters for ERV's and HRV's, and because both ASHRAE Standard 62.2-2010 and its user guide lack any definitive guidance

				regarding ERV's and HRV's, Footnote 52 will be modified to clarify that such systems are exempted from Item 9.1. To reflect this clarification, Footnote 52 of Rater-F will be revised to state: "Per ASHRAE 62.2-2010, ducted mechanical systems are those that supply air to an occupiable space through ductwork exceeding 10 ft. in length and through a thermal conditioning component, except for evaporative coolers. Systems that do not meet this definition are exempt from this requirement. While filters are recommended for mini-split systems, HRV's, and ERV's, these systems typically do not have MERV-rated filters available for use and are, therefore, also exempted under this version of the requirements. HVAC filters located in the attic shall be considered accessible to the owner if drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter."
00697	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Item 10.3 and Footnote 56 - Updating Combustion Safety Testing RESNET Reference**
				Issue: Item 10.3 and Footnote 56 reference 'Section 805' of RESNET's Standards for testing of unvented combustion appliances. RESNET has updated the section number for these tests to '802'.
				Resolution: To correctly refer to the new section number, Item 10.3 will be revised as follows: "If unvented combustion appliances other than cooking ranges or ovens are located inside the home's pressure boundary, the Rater has followed Section 802 of RESNET's Standards, encompassing ANSI/ACCA 12 QH-2014, Appendix A, Section A3 (Carbon Monoxide Test), and verified the equipment meets the limits defined within." Similarly, Footnote 56 will be revised as follows: "Naturally drafted equipment is allowed within the home's pressure boundary in Climate Zones 1-3 if the Rater has followed Section 802 of RESNET's Standards, encompassing ANSI/ACCA 12 QH-2014, Appendix A, Sections A3 (Carbon Monoxide Test) and A4 (Depressurization Test for the Combustion Appliance Zone), and verified that the equipment meets the limits defined within."
00698	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Reference added to 2016 version of ASHRAE 62.2 alongside 2010 and 2013 versions**
				Issue: Partners have asked if they are permitted to use the 2016 version of ASHRAE 62.2, in addition to the 2010 and 2013 versions, and published addenda.
				Resolution: Because of the significant differences to the ASHRAE 62.2 standard that can occur due to the release of new addenda and new versions, it will be clarified that partners are permitted to, but are not required to, use the latest version (i.e., ASHRAE 62.2-2016) of the standard.

				To reflect this change, the document will be updated as follows: • Footnote 30 will be revised to say that the Checklist is "...designed to meet the requirements of ASHRAE 62.2-2010 / 2013 / 2016...". • Footnote 50 will be revised to say that "...the prescriptive duct sizing requirements in Table 5.3 of ASHRAE 62.2-2010 / 2013 / 2016 are permitted to be used...". All remaining references to "ASHRAE 62.2-2010" are simply definitions and will remain unchanged.
00699	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Footnotes 36 and 42 - Updated references to Standard 380**
				Issue: Footnotes 36 and 42 refer to generic RESNET-approved test protocols and to test instruments to be used for duct leakage testing and ventilation airflow testing until the publication of ANSI / RESNET / ICC Standard 380. Now that the standard has been published, updating the Footnotes with a reference to Standard 380 will direct Raters to the appropriate test protocols, reduce potential confusion, and ensure that tests are being done consistent with the industry standard.
				Resolution: To direct Raters to the appropriate test protocols, reduce potential confusion, and ensure that tests are being done consistent with the industry standard, Footnotes 36 and 42 will be updated to refer to ANSI / RESNET / ICC Standard 380. To reflect this change, Footnote 36 will be revised as follows: "Items 6.4 and 6.5 only apply to heating, cooling, and balanced ventilation ducts. Duct leakage shall be determined and documented by a Rater using the same version of ANSI / RESNET / ICC Std. 380 that is utilized by RESNET for HERS ratings. Leakage limits shall be assessed on a per-system, rather than per-home, basis. For balanced ventilation ducts that are not connected to space heating or cooling systems, a Rater is permitted to visually verify, in lieu of duct leakage testing, that all seams and connections are sealed with mastic or metal tape and all duct boots are sealed to floor, wall, or ceiling using caulk, foam, or mastic tape." Footnote 42 will be revised as follows: "The whole-house ventilation air flow and local exhaust air flows shall be determined and documented by a Rater using the same version of ANSI / RESNET / ICC Std. 380 that is utilized by RESNET for HERS ratings."
00700	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Footnote 49 - Updated kitchen volume definition and minimum kitchen exhaust rate**
				Issue: The definition of "kitchen volume" in Footnote 49 implies, but does not explicitly state, that it must encompass the kitchen exhaust fan and range / oven. On rare occasions, this could result in situations where these components are outside the kitchen volume, reducing the effectiveness of the local mechanical exhaust system. Additionally, when using kitchen volume to determine the required exhaust rate, there is currently no minimum absolute exhaust rate

				specified. As a result, for very small kitchen volumes (i.e., < 300 cu. ft.), the resulting minimum exhaust rate falls below 25 CFM, the minimum rate specified in Table M1507.3 of the 2009 IRC.
				Resolution: To ensure that kitchen local mechanical exhaust meets the program's intent, and to ensure that it does not drop below the requirements of the 2009 IRC, Footnote 49 will be revised to require inclusion of the kitchen exhaust fan and range / oven within the definition of "kitchen volume" and a minimum absolute kitchen exhaust rate will be added. Footnote 49 will be revised as follows: "Kitchen volume shall be determined by drawing the smallest possible rectangle on the floor plan that encompasses all cabinets, pantries, islands, peninsulas, ranges / ovens, and the kitchen exhaust fan, and multiplying by the average ceiling height for this area. In addition, the continuous kitchen exhaust rate shall be ≥ 25 CFM, per 2009 IRC Table M1507.3, regardless of the rate calculated using the kitchen volume. Cabinet volume shall be included in the kitchen volume."
00630	**09/01/2017**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Footnote 52 – Alternative compliance option for filter access in attics**
				Issue: Partners have expressed difficulty meeting the filter access requirement in certain homes where the HVAC equipment is located in the attic, such as when space constraints preclude the use of drop-down stairs and the filter cannot be located at the return grille (e.g., due to linear returns or the use of high-MERV filters).
				Resolution: To address this challenge, an alternative compliance option will be added that permits the filter to be located such that it enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft. This option will be added to Footnote 52 as follows: "…HVAC filters located in the attic shall be considered accessible to the owner if either: 1) drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter or 2) the filter location enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft."
00701	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Footnote 52 – Filters recommended, not required, for ducted *and* ductless mini-splits**
				Issue: Partners have asked if both ducted and ductless mini-splits are exempt from the filter requirements of Item 9.1 per Footnote 52.
				Resolution: Consistent with Policy Record Entry 00652, which clarifies that the program's definition of mini-split / multi-split air conditioners and heat pumps is not dependent on duct length, both ducted and ductless systems are recommended but not required to meet the filter requirements of Item 9.1. Footnote 52 will be modified as follows:

				"Based upon ASHRAE 62.2-2010, ducted mechanical systems are those that supply air to an occupiable space with a total amount of supply ductwork exceeding 10 ft. in length and through a thermal conditioning component, except for evaporative coolers. Systems that do not meet this definition are exempt from this requirement. While filters are recommended for mini-split systems, HRV's and ERV's, these systems, ducted or not, typically do not have MERV-rated filters available for use and are, therefore, also exempted under this version of the requirements. HVAC filters located in the attic shall be considered accessible to the owner if either 1) drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter or 2) the filter location enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft."
00702	**09/01/2018**	**Rater Field Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Footnote 52 – Definition of ducted mechanical system dependent on <u>total</u> supply duct length**
				Issue: Partners have asked for clarification of the ductwork length in the program's definition of a ducted mechanical system, which is based on ASHRAE 62.2-2010. Specifically, they have asked if the criteria for "ductwork exceeding 10 ft. in length" refers to the longest single supply duct run of the system or the total length of all supply ductwork in the system.
				Resolution: To clarify that the program's definition of a ducted mechanical system is dependent on whether the <u>total</u> length of all supply ductwork exceeds 10 ft., Footnote 52 will be modified as follows: "Based upon ASHRAE 62.2-2010, ducted mechanical systems are those that supply air to an occupiable space with a total amount of supply ductwork exceeding 10 ft. in length and through a thermal conditioning component, except for evaporative coolers. Systems that do not meet this definition are exempt from this requirement. While filters are recommended for mini-split systems, HRV's and ERV's, these systems, ducted or not, typically do not have MERV-rated filters available for use and are, therefore, also exempted under this version of the requirements. HVAC filters located in the attic shall be considered accessible to the owner if either 1) drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter or 2) the filter location enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft."
00666	**06/29/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to "National HVAC Design Report (Version 3 / 3.1, Rev. 08)".

				Additionally, any references to this document in other program documents will be updated to use the updated title.
00656	**04/11/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Clarification**	**HVAC system with redundant sets of heating / cooling equipment is allowed**
				Issue: A partner has asked whether a home with an HVAC system comprised of multiple, redundant, sets of heating and cooling equipment serving a single zone is eligible to be certified. Such a system, which is very uncommon in the residential sector, would allow the first set of equipment to operate until failure and then allow the second set to operate. Currently, the program requirements do not address such an HVAC system. Furthermore, the HVAC Design Report does not have space for documenting multiple, redundant, sets of heating and/or cooling equipment.
				Resolution: A home with an HVAC system comprised of multiple, redundant, sets of heating and/or cooling equipment is eligible for certification, so long as all applicable requirements are met. When the HVAC system is designed to have redundant heating and/or cooling equipment (i.e., the multiple sets of heating and/or cooling equipment would not run at the same time), the HVAC system designer shall complete separate HVAC Design Reports, with each document associated with one set of heating and/or cooling equipment.
00652	**02/07/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Exemption of ducted mini-split / multi-split air conditioners and heat pumps**
				Issue: Partners have noted that the current definition of mini-split / multi-split air conditioners and heat pumps provided in Policy Record entry #00330 includes an illustrative example of common duct length (e.g., 10 ft.). They have asked whether the length of the duct system is a determinant for meeting the definition of a mini-split / multi-split system. When the definition for this system type was created, most if not all mini-split and multi-split systems were constrained to limited duct runs because of the low static pressure limit of the fan. For most systems today, that is still the case. However, a new system type has emerged. While these systems maintain the variable refrigerant flow and distributed refrigerant technology with the capability of serving multiple indoor sections with a single outdoor section, the indoor sections are equipped with more powerful fans that can serve extended duct runs. It is for this emerging system type that the current policy is unclear.
				Resolution: Whether the length of the duct system is short or long on a mini-split / multi-split HVAC system, it does not change the overall rationale for exempting them. Furthermore, the 10 ft. limit was intentionally written as an example, using, “e.g.”, as opposed to an explicit limit. Therefore, while such systems typically have limited duct runs, the length of the duct system was not intended to be a determinant for meeting this definition. To convey this intent, the definition of a mini-split / multi-split system will be revised, as follows.

				With regards to mini-split / multi-split air conditioners and heat pumps, for the purposes of the ENERGY STAR Certified Homes program, the following definition will be assumed for this system type: "Mini-split / multi-split air conditioners and heat pumps have variable refrigerant flow and distributed refrigerant technology with the capability of serving multiple indoor sections with a single outdoor section. The indoor sections are typically, but not exclusively, mounted on room walls and/or ceilings and designed to heat or cool air within the conditioned space either directly or through limited duct runs. While duct runs are often limited to ≤ 10 ft., the length of the duct system is not a determinant for meeting this definition."
00555	**04/01/2016**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Clarification**	**How to complete report for exempted system types**
				Issue: Partners have noted that there is some ambiguity about whether certain system types are exempted from completing portions of the HVAC Design Report, as they were under Rev. 07. With the release of Rev. 08, the design Sections were relocated to the HVAC Design Report while the commissioning Sections were relocated to the HVAC Commissioning Checklist. While the language in Footnote 1 of Rev. 07 was also relocated to the HVAC Commissioning Checklist, no such language was included in the HVAC Design Report. As a result, it's unclear whether the Rev. 07 policy, which exempted certain equipment types from having to complete certain design Sections, has changed in Rev. 08.
				Resolution: So as not to increase the stringency of Rev. 08 relative to Rev. 07, only Sections 1 and 2 will be required to be completed for exempted system types. This will be consistent with Rev. 07 in that only project-related information and whole-house mechanical ventilation system design will be required to be documented. In addition, EPA will recommend, but not require, that the remaining design Sections be completed for exempted system types in Rev. 08. In this way, EPA will not change the stringency of the program with the latest Revision. To reflect this clarification, a second paragraph will be added to Footnote 1 as follows: "This report applies to split air conditioners, unitary air conditioners, air-source heat pumps, and water-source (i.e., geothermal) heat pumps up to 65 kBtuh with forced-air distribution systems (i.e., ducts) and to furnaces up to 225 kBtuh with forced-air distribution systems (i.e., ducts). For all other permutations of equipment (e.g., boilers, mini-split / multi-split systems) and distribution systems, Section 1 and 2 are required and Sections 3 through 5 are recommended, but not required.
00631	**09/01/2017**		**Clarification**	**Conditioning Energy Recovery Ventilation Systems**

		HVAC Design Report (Version 3 / 3.1, Rev. 08)		**Issue:** A partner has asked whether the HVAC Design Report must be completed for a Conditioning Energy Recovery Ventilation (CERV) system.
				Resolution: For the purposes of this program, a Conditioning Energy Recover Ventilator (CERV) is considered a ventilation system. Therefore, if a CERV is in the home, and none of the applicable HVAC systems listed in Footnote 1 of the HVAC Commissioning Checklist are in the home, then only Sections 1 and 2 are required to be completed for the home.
00632	**09/01/2017**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Change**	**How to Document Jurisdiction-Specified Design Temperature**
				Issue: Partners have asked which outdoor design temperature to use in load calculations when a temperature specified by their local jurisdiction exceeds the limit found in the ENERGY STAR Certified Homes Design Temperature Limit Reference Guide.
				Resolution: As noted at energystar.gov/hvacdesigntemps, "If the outdoor design temperatures to be used in load calculations are specified by the jurisdiction where the home will be certified, then these specified temperatures shall be used." If a jurisdiction-specified design temperature is used that exceeds the limit defined in the ENERGY STAR Certified Homes Design Temperature Limit Reference Guide, then a Design Temperature Exception Request shall be submitted. To reflect this policy, the following phrase will be added to energystar.gov/hvacdesigntemps: "If a jurisdiction-specified design temperature is used that exceeds the limit defined in the ENERGY STAR Certified Homes Design Limit Temperature Reference Guide, designers must submit a Design Temperature Exception Request." In addition, the following will be added to Footnote 12: "If a jurisdiction-specified design temperature is used that exceeds the limit defined in the ENERGY STAR Certified Homes Design Temperature Limit Reference Guide, designers must submit a Design Temperature Exception Request."
00633	**09/01/2017**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Item 3.3 and Footnote 12 – Design temperature limits added for US Territories**
				Issue: The Design Temperature Limit Reference Guide was updated to include design temperature limits for US Territories, in addition to the limits already included for counties and states. Currently, Item 3.3 and Footnote 12 only reference counties and states.
				Resolution: The reference to 'County & State' in Item 3.3 will be updated to read 'County & State, or US Territory' to reflect the inclusion of territories in the Design Temperature Limit Reference Guide. Additionally, the second sentence of Footnote 12 will be revised to reflect this inclusion, as follows: "For 'County & State, or US Territory, selected', select the County and

				State or US Territory (i.e., Guam, Northern Mariana Islands, Puerto Rico, or US Virgin Islands), where the home is to be certified.”
00585	**06/03/2016**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Change**	**Item 4.21 - Increased sizing allowance for furnaces paired with cooling**
				Issue: Partners have indicated that the current over-sizing limit for furnaces paired with cooling is too restrictive in some circumstances. Item 4.21 indicates that the heating sizing limit for furnaces paired with cooling is recommended to be 100-140% and allowed to be 100-200%. This is consistent with the sizing limits in the latest edition of ACCA Manual S. However, in cases where the cooling load is substantially larger than the heating load, partners have indicated that it is difficult to find equipment that is right-sized for both the cooling and heating load. Manufacturers generally don't produce furnace models with large fans and small burner capacities. As a result, over-sized furnaces are selected because they contain larger fans, which are required to be paired with the larger condensers needed in cooling-dominated climates.
				Resolution: The over-sizing limit for furnaces will be adjusted to reflect the limited product availability that meets the ACCA Manual S over-sizing limit of 200% in cooling dominated climates. While designers are encouraged to meet ACCA Manual S limits whenever possible, this higher threshold will provide needed flexibility to meet program requirements. To reflect this change, Item 4.21 will be revised. The sizing limit for equipment when it's paired with cooling will read: “Recommended: 100-140% Allowed: 100-400%”
00634	**09/01/2017**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 4.5 - Alternative documentation to AHRI Reference #**
				Issue: Partners have asked whether a home can be certified using an HVAC system that does not have an AHRI Reference # or OEM-provided documentation. They have also asked, if an AHRI Reference # is not available, what alternative documentation from the OEM would satisfy the intent of this requirement?
				Resolution: This Item currently requires the AHRI Reference # to be documented. Footnote 21 provides additional guidance, stating that, “Evaporators and condensing units shall be properly matched as demonstrated by an AHRI Reference #. If an AHRI Reference # isnot available, a copy of OEM-provided catalog data indicating acceptable combination selection and performance data shall be attached.” An AHRI Reference # references a specific AHRI certificate, which provides two valuable pieces of information:

				• The rated efficiency (e.g., EER, SEER) of that specific combination of evaporator and condenser. The rated efficiency is needed to complete accurate energy modeling for the home. • Confirmation that the specific combination of evaporator and condenser are intended to be used together. This is implied, because it is assumed that an OEM would not document the rated efficiency of a specific combination of evaporator and condenser if it was not intended to be used. Therefore, while an AHRI Reference # may be the simplest way to demonstrate that this information is available, other forms of documentation from the OEM may also be able to demonstrate this. There is no prescribed format that that documentation must follow. For example, it could be a rating certificate from an entity other than AHRI, or a letter from the OEM with the required information. The key point is that the OEM documentation must contain the rated efficiency of the equipment combination and confirmation that the two components are designed to be used together. With this in mind, a home cannot be certified using an HVAC system that does not have an AHRI Reference # or OEM-provided documentation. As an alternate to an AHRI Reference #, documentation from the OEM may be used if it provides the rated efficiency of the specific combination of indoor and outdoor components of the air conditioner or heat pump, along with confirmation that the two components are designed to be used together. To clarify the intent of Footnote 21, it will be revised as follows: “If an AHRI Reference # is not available, OEM-provided documentation shall be attached with the rated efficiency of the specific combination of indoor and outdoor components of the air conditioner or heat pump, along with confirmation that the two components are designed to be used together.”
00667	**06/29/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Item 5.5 - Increased size of the room-by-room airflow table**
				Issue: A partner has requested that the table for documenting room-by-room airflows in Item 5.5 be edited to accommodate more rooms. The table currently has space for 23 rooms, and the partner indicated that they occasionally need to document design airflow for more than 23 rooms. Additionally, the corresponding Footnote 26 allows designers to provide supplemental documentation for Item 5.5, and the partner asked EPA to provide a template that could be used for this supplemental documentation.
				Resolution: To allow documentation of design airflows for more rooms, the table in Item 5.5 will be edited to include space for up to 32 rooms. Additionally, a template will be provided that partners may use to provide supplemental documentation of room-by-room and total design airflows per Footnote 26. This supplemental documentation will be provided at:

				www.energystar.gov/newhomeshvacdesign. The following sentence will be added to Footnote 26 to indicate the location of this new document: "Sample supplemental documentation can be found at www.energystar.gov/newhomeshvacdesign."
00703	**09/01/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Change**	**Reference added to 2016 version of ASHRAE 62.2 alongside 2010 and 2013 versions**
				Issue: Partners have asked if they are permitted to use the 2016 version of ASHRAE 62.2, in addition to the 2010 and 2013 versions, and published addenda.
				Resolution: Because of the significant differences to the ASHRAE 62.2 standard that can occur due to the release of new addenda and new versions, it will be clarified that partners are permitted to, but are not required to, use the latest version (i.e., ASHRAE 62.2-2016) of the standard. To reflect this change, the document will be updated as follows: • Footnote 1 will be revised to say that the report is "...designed to meet ASHRAE 62.2-2010 / 2013 / 2016...". • Item 2.1 will be revised to require that the designer verify that the "Ventilation airflow design rate & run-time meet the requirements of ASHRAE 62.2-2010, 2013, or 2016". • Footnote 6 will be revised to say "...Designers are permitted, but not required, to use published addenda and/or the 2013 or 2016 version of the standard to assess compliance." All remaining references to "ASHRAE 62.2-2010" are simply definitions and will remain unchanged.
00704	**09/01/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Footnote 1 - Revision of occupant behavior language**
				Issue: This Footnote acknowledges that the features included in a certified home cannot, on their own, prevent all potential ventilation, indoor air quality, or HVAC problems, "(e.g., those caused by a lack of maintenance by occupants)". The language in the parenthesis implies that this lack of maintenance is only caused by the occupant, whereas maintenance may either be the responsibility of the occupant or another party such as a facilities manager. At the same time, occupant behavior must be acknowledged as a potential factor in the performance of a home. Therefore, this language needs to be refined.
				Resolution: In order to more accurately describe this possibility, the language in the parenthesis of Footnote 1 will be refined as follows: "(e.g., those caused by a lack of maintenance or occupant behavior)."
00705	**09/01/2018**		**Change**	**Footnote 2 - Increased Tolerance for Conditioned Floor Area**

		HVAC Design Report (Version 3 / 3.1, Rev. 08)		**Issue:** Partners have noted an issue with the allowable tolerance between the conditioned floor area used in loads and that of the home to be certified. The allowable tolerance does not permit the conditioned floor area used in the loads to be any smaller than the home to be certified, even when such a deviation will not significantly affect the load. For example, if the designer calculates conditioned floor area by measuring from the interior drywall to interior drywall, while the Rater measures from the exterior to the exterior, the designer will end up with a smaller conditioned floor area, resulting in a failure despite negligible impacts on the load calculation.
				Resolution: The tolerance will be changed to allow the conditioned floor area used in loads to fall between 100 sq. ft smaller and 300 sq. ft. larger than the home to be certified. This change recognizes that if the conditioned floor area used in the loads is slightly smaller than the home to be certified, the overall accuracy of the load will not be greatly compromised. To reflect this change, the third bullet in Footnote 2 will be revised to read: "Item 3.5: The conditioned floor area used in loads is between 100 sq. ft. smaller and 300 sq. ft. larger than the home to be certified."
00706	**09/01/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Change**	**Footnote 2- Increased tolerance for window area**
				Issue: Partners have noted two issues with the allowable tolerance between the window area used in loads and that of the home to be certified. The first issue is that the low-end tolerance does not permit the window area used in the loads to be any smaller than the home to be certified, even when such a deviation will not significantly affect the load. For example, if the designer calculates the load with even one less sq. ft. of window area than what the home to be certified contains (e.g., due to an imprecise take-off), then the home would not strictly meet the intent of this item. The second issue is that as the window area in the home increases, the fixed tolerances become increasingly restrictive. That is to say, while the high-end tolerance of 60 sq. ft. may be routinely achievable for a typical home, as the window area increases the 60 sq ft. tolerance becomes a smaller percentage of the overall window area. Outreach was conducted with multiple partners in different climate zones. Partners indicated that it would be helpful to increase the low-end tolerance to allow the window area used in the loads to be slightly smaller than the home to be certified. Partners also indicated that adding a percent-based tolerance would be helpful to address the second issue.
				Resolution: The tolerance will be changed to allow the window area used in loads to fall between 15 sq. ft. smaller and 60 sq. ft. larger than the home to be certified. This change recognizes that if the window area used in the load calculations is slightly smaller than the home to be certified, the overall accuracy of the load will not be greatly compromised.

				Additionally, for homes to be certified with greater than 500 sq. ft. of window area, the tolerances will be changed to use a percentage of window area. To reflect this change, the fourth bullet in Footnote 2 will be revised to read: "Item 3.6: The window area used in loads is between 15 sq. ft. smaller and 60 sq. ft. larger than the home to be certified, or, for homes to be certified with > 500 sq. ft. of window area, between 3% smaller and 12% larger."
00768	**09/01/2018**	**HVAC Design Report (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Footnote 13 - References updated to latest RESNET standard**
				Issue: This document contains a reference to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current reference is outdated.
				Resolution: The reference to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edit will be made: • Footnote 13: "…A bedroom is defined by ANSI / RESNET / ICC Standard 301-2014 as…"
00668	**06/29/2018**	**HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to "National HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)". Additionally, any references to this document in other program documents will be updated to use the updated title.
00657	**04/11/2018**	**HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**HVAC system with redundant sets of heating / cooling equipment is allowed**
				Issue: A partner has asked whether a home with an HVAC system comprised of multiple, redundant, sets of heating and cooling equipment serving a single zone is eligible to be certified. Such a system, which is very uncommon in the residential sector, would allow the first set of equipment to operate until failure and then allow the second set to operate. Currently, the program requirements do not address such an HVAC system. Furthermore, the HVAC Commissioning Checklist does not have space for documenting multiple, redundant, sets of heating and/or cooling equipment.
				Resolution: A home with an HVAC system comprised of multiple, redundant, sets of heating and/or cooling equipment is eligible for certification, so long as all applicable requirements are met. When the HVAC system is designed to have redundant heating and/or cooling equipment (i.e., the multiple sets of heating and/or cooling equipment would not run at the same time), the

				HVAC installing contractor shall complete separate HVAC Commissioning Checklists, with each document associated with one set of heating and/or cooling equipment.
00653	**02/07/2018**	**HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Exemption of ducted mini-split / multi-split air conditioners and heat pumps**
				Issue: Partners have noted that the current definition of mini-split / multi-split air conditioners and heat pumps provided in Policy Record entry #00330 includes an illustrative example of common duct length (e.g., 10 ft.). They have asked whether the length of the duct system is a determinant for meeting the definition of a mini-split / multi-split system. When the definition for this system type was created, most if not all mini-split and multi-split systems were constrained to limited duct runs because of the low static pressure limit of the fan. For most systems today, that is still the case. However, a new system type has emerged. While these systems maintain the variable refrigerant flow and distributed refrigerant technology with the capability of serving multiple indoor sections with a single outdoor section, the indoor sections are equipped with more powerful fans that can serve extended duct runs. It is for this emerging system type that the current policy is unclear.
				Resolution: Whether the length of the duct system is short or long on a mini-split / multi-split HVAC system, it does not change the overall rationale for exempting them. Furthermore, the 10 ft. limit was intentionally written as an example, using, “e.g.”, as opposed to an explicit limit. Therefore, while such systems typically have limited duct runs, the length of the duct system was not intended to be a determinant for meeting this definition. To convey this intent, the definition of a mini-split / multi-split system will be revised, as follows. With regards to mini-split / multi-split air conditioners and heat pumps, for the purposes of the ENERGY STAR Certified Homes program, the following definition will be assumed for this system type: “Mini-split / multi-split air conditioners and heat pumps have variable refrigerant flow and distributed refrigerant technology with the capability of serving multiple indoor sections with a single outdoor section. The indoor sections are typically, but not exclusively, mounted on room walls and/or ceilings and designed to heat or cool air within the conditioned space either directly or through limited duct runs. While duct runs are often limited to ≤ 10 ft., the length of the duct system is not a determinant for meeting this definition.”
00650	**12/13/2017**	**HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)**	**Change**	**Three-year retention period for HVAC Commissioning Checklist**
				Issue: Partners have asked how long the HVAC Design Report and HVAC Commissioning Checklist must be retained by the HVAC contractor.
				Resolution: RESNET requires the QA Record for each home to be maintained for a minimum of three years. Requiring the contractor to retain their documentation for the same period of

				time will ensure that if any quality assurance activities are initiated on a home, the relevant documentation from the contractor will be accessible if needed. To reflect this change, the header of the HVAC Commissioning Checklist will be revised as follows: "The completed checklist for each commissioned system, along with the corresponding HVAC Design Report, shall be retained by the contractor for a minimum of three years for quality assurance purposes. Furthermore, the contractor shall provide the completed checklist to the builder, the Home Energy Rater responsible for certifying the home, and the HVAC oversight organization upon request."
00635	**09/01/2017**	**HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Conditioning Energy Recovery Ventilation Systems**
				Issue: A partner has asked whether the HVAC Commissioning Checklist must be completed for a Conditioning Energy Recovery Ventilation (CERV) system.
				Resolution: For the purposes of this program, a Conditioning Energy Recover Ventilator (CERV) is considered a ventilation system. Therefore, if a CERV is in the home, and none of the applicable HVAC systems listed in Footnote 1 are in the home, then the HVAC Commissioning Checklist is not required for the home, nor is a credentialed contractor.
00658	**04/11/2018**	**HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Credential not required for hydro-coil systems**
				Issue: A partner asked whether a hydro-coil system is exempt from the requirement to use a credentialed HVAC contractor. Hydro-coil systems typically connect a home's domestic hot water heater to the HVAC system with a hydronic loop, such that the HVAC system can blow air across the hot coil to heat the home. Footnote 1 provides a list of system types that are applicable to this checklist and states that all other system types are exempt, giving several examples. Hydro-coil systems are not explicitly mentioned in this checklist.
				Resolution: Because a hydro-coil system is not an air conditioner, a heat pump, or a furnace, it is not one of the system types explicitly listed as applicable in Footnote 1. Therefore, if a hydro-coil system is used in a dwelling unit, and none of the applicable HVAC systems listed in Footnote 1 are used in a dwelling unit, then this checklist is not required, nor is a credentialed contractor.
00707	**09/01/2018**	**HVAC Commissioning Checklist (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Footnote 1 - Revision of occupant behavior language**
				Issue: This Footnote acknowledges that the features included in a certified home cannot, on their own, prevent all potential ventilation, indoor air quality, or HVAC problems, "(e.g., those caused by a lack of maintenance by occupants)". The language in the parenthesis implies that this lack of maintenance is only caused by the occupant, whereas maintenance may either be

				the responsibility of the occupant or another party such as a facilities manager. At the same time, occupant behavior must be acknowledged as a potential factor in the performance of a home. Therefore, this language needs to be refined.
				Resolution: In order to more accurately describe this possibility, the language in the parenthesis of Footnote 1 will be refined as follows: "(e.g., those caused by a lack of maintenance or occupant behavior)."
00669	**06/29/2018**	**Water Management System Builder Requirements (Version 3 / 3.1, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to "National Water Management System Builder Requirements (Version 3 / 3.1, Rev. 08)". Additionally, any references to this document in other program documents will be updated to use the updated title.
00607	**02/23/2017**	**Water Management System Builder Requirements (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 1.3 – Capillary Break & Footers**
				Issue: Partners have asked whether the requirement to include a capillary break beneath a slab also requires that the capillary break encompass its footers. As written, the Item does not specify whether the capillary break is permitted to be terminated at the slab edge, or if it must be extended either under and around the footer or on top of the footer.
				Resolution: Ensuring that the capillary break extends either under and around the footer or on top of the footer will improve the water management system of the home. However, because the Item is ambiguous as to whether this is currently required, it will remain a recommendation, rather than a requirement, at this time. The possibility of requiring this detail will be considered when the next Version of the program requirements is developed.
00608	**02/23/2017**	**Water Management System Builder Requirements (Version 3 / 3.1, Rev. 08)**	**Clarification**	**Item 2.3 – Flashing details for structural concrete**
				Issue: Partners have asked whether the allowance in Footnote 11 to use "equivalent flashing details for structural masonry walls" also applies to structural concrete walls. While not explicitly referenced in Footnote 11, structural concrete walls often use water management system details that are more similar to structural masonry walls than the traditional flashing details used in wood or steel framed construction.
				Resolution: Structural concrete walls will be permitted to use alternate details that are equivalent to the default window and door opening flashing details, just as structural masonry walls are permitted to. To reflect this change, Footnote 11 will be revised to read, "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 or equivalent details for structural masonry or structural concrete walls.”
00609	**02/23/2017**	**Water Management System Builder Requirements (Version 3 / 3.1, Rev. 08)**	**Change**	**Item 3.3 and 3.4 - Allowance to use Thermoplastic Single-Ply Roofing Products**
				Issue: Partners have noted that thermoplastic single-ply roofing products do not currently satisfy Items 3.3 and 3.4, which define acceptable materials for protecting roof valleys, roof deck penetrations, and eaves in cold climates. Footnote 15 currently allows materials from Sections R905.2.8.2 and R905.2.7.1 of the 2009 IRC to be used as alternatives for meeting Items 3.3 and 3.4, respectively, but these sections only address a variety of bituminous and metallic materials. Bituminous and metallic materials are commonly used in single-family homes for this purpose. However, other roofing options are available, including thermoplastics, which are more commonly used in commercial buildings or multifamily mid- and high-rise complexes with low-slope roofs. A later section in Chapter 9 of the 2009 IRC (R905.13) defines requirements for the application of thermoplastic single-ply roofing products, including thermoplastic polyolefin (TPO). This section is not currently incorporated in Footnote 15. Therefore, partners using TPO in these roofing applications have asked whether such products are an acceptable alternative compliance option when selected and installed in accordance with this Section.
				Resolution: Footnote 15 will be expanded to include the materials listed in section R905.13 of the 2009 IRC as acceptable alternatives to meeting Items 3.3 and 3.4. To reflect this clarification, Footnote 15 will be expanded, as follows: “As an alternative, any applicable option in 2009 IRC Section R905.2.8.2 is permitted to be used to meet Item 3.3 and any option in 2009 IRC Section R905.2.7.1 is permitted to be used to meet Item 3.4. EPA recommends, but does not require, that products meet ASTM D1970. In addition, any option in 2009 IRC Section R905.13 is permitted to be used to meet either Item 3.3 or 3.4.”
00670	**06/29/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to “National HERS Index Target Procedure (Version 3, Rev. 08)”. Additionally, any references to this document in other program documents will be updated to use the updated title.
00671	**06/29/2018**		**Refinement**	**Removal of steps for manual calculation of HERS Index Target**

		HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)		**Issue:** Archive Policy Record entry 00303 states that "the process of determining the ENERGY STAR HERS Index Target must be completed using a RESNET-accredited rating software program, and is no longer permitted to be completed manually". However, guidance for manual configuration of the HERS Index Target is still provided in this document. Furthermore, there are several minor differences between this document and the Version 3.1 ENERGY STAR HERS Index Target Procedure.
				Resolution: In order to remove any ambiguity regarding the requirement of determining the HERS Index Target using a RESNET-accredited rating software program and to align with the Version 3.1 ENERGY STAR HERS Index Target Procedure, the following edits will be made: • The word 'detailed' will be removed from the first sentence of the document. • The word 'numerical' will be added before the phrase "HERS Index value" • The phrase "a home can achieve and be certified" will be replaced with "each rated home may achieve to earn the ENERGY STAR" in the first sentence of the document. • The second sentence of the document which reads "The Certification Process provides flexibility to select a custom combination of measures through energy modeling that achieves the required ENERGY STAR HERS Index Target" will be removed. • The third sentence of the document will be refined and will read: "Note that, in addition to meeting the ENERGY STAR HERS Index Target, homes shall also meet all mandatory Requirements for All Certified Homes in Exhibit 2 of the ENERGY STAR Certified Homes Version 3 National Program Requirements." • The second paragraph, which introduces the steps for calculating the ENERGY STAR HERS Index Target, will be refined as follows: "A RESNET-accredited Home Energy Rating software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home using the following procedure:" • The first two sentences of step 1 will be reworded and condensed as follows: "The software shall configure the ENERGY STAR Reference Design Home in accordance with Exhibit 2, The Expanded ENERGY STAR Reference Design Definition, and calculate its associated numerical HERS index value." The remaining language will be removed from Step 1. • The phrase "the software shall" will be inserted before all three instances of the word "calculate" in steps 2 and 3. • Step 4 will be removed.
00708	**09/01/2018**		**Clarification**	**References updated to latest RESNET standard and various parameters clarified**

		HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)		**Issue:** This document contains numerous references to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Hence, the current references are outdated. In addition, several parameters require clarification as to how they should be configured in the ENERGY STAR Reference Design Home.
				Resolution: References to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard" will be updated to the ANSI-standard version. In addition, references to specific sections of the standard will be replaced with more general references to prevent outdated references as the standard continues to be revised. Finally, the configuration of Service Water Heating Systems and Internal Gains will be clarified. To reflect these clarifications, the following edits will be made: • In Step 2: The first sentence after the equation will read as follows: "For the purposes of this step, the software shall calculate the number of bedrooms and the CFA of the home to be built in accordance with the definitions in ANSI / RESNET / ICC Std. 301 with the following exception…" • In the Glazing: Interior Shade Coefficient Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" • In the Service Water Heating Systems: Use (Gallons per Day) Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for reduced usage resulting from the dishwasher specified in the Lighting, Appliances, & Internal Gains Section." In addition, this will be associated with a new Footnote as follows: "That is to say, representative of standard-flow plumbing fixtures, reference clothes washer gallons per day, standard distribution system water use effectiveness, a hot water piping ratio of 1.0, no pipe insulation, and no drainwater heat recovery." • Service Water Heating Systems: Tank Temperature Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301". • Thermostat: Temperature Setpoints Section: "Same as Energy Rating Reference Home, but with offsets for a programmable thermostat, as defined by ANSI / RESNET / ICC Std. 301" • Lighting, Appliances, & Internal Gains: Internal Gains Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for adjustments for the lighting, refrigerator, dishwasher, and ceiling fans specified in this Section."

				• Internal Mass Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" • Footnote 1: The final sentence will read as follows: "The full conditioned floor area should be used when rating the home (e.g., determining compliance with duct leakage requirements)." • Footnote 2: The second sentence will read as follows: "A bedroom is defined by ANSI / RESNET / ICC Std. 301-2014 as a room or space 70 sq. ft. or greater size, with egress window and closet, used or intended to be used for sleeping." • Footnote 11: This Footnote contained the reference to the outdated version of the RESNET standard and will be deleted. • In addition to these edits, a new Footnote will be associated with Step 2 and all parameters included above, as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter."
00709	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Change**	**Exhibit 2 - Heating Systems and Cooling Systems – Equipment capacity and EAE**
				Issue: Partners have asked EPA about two attributes of heating and cooling equipment in the ENERGY STAR Reference Design Home. The first is about the acceptable methodologies for selecting the capacity of the heating and cooling equipment. Partners have noted that ANSI / RESNET / ICC Std. 301 has refined language regarding this process. More importantly, Std. 301 does not allow the equipment capacity of the rated home to be used for the Energy Rating Reference Home. This option was included for the ENERGY STAR Reference Design Home when ENERGY STAR Version 3 was first drafted to ease the burden for ERI software programs. However, it appears that none of the software providers are using this option. The second attribute is the Electric Auxiliary Energy (EAE) of non-electric warm furnaces and non-electric boilers. This attribute is not specified, yet can potentially have a significant impact on the efficiency of the home so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify the configuration of these two attributes, the Heating Systems and Cooling Systems Sections will be revised as follows: In the Heating Systems Section, the first row will be revised as follows: "Heating capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure". In the Heating Systems Section, a new row will be added at the bottom of this section with the following language: "For non-electric warm furnaces and non-electric boilers, the Electric

				Auxiliary Energy shall be determined in accordance with the methodology for the Energy Rating Reference Home in ANSI / RESNET / ICC Std. 301, using the capacity determined in this Section". This will be associated with a new Footnote as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter." In the Cooling Systems Section, the first row will be revised as follows: "Cooling capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure.
00589	**08/08/2016**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Clarification**	**Exhibit 2 - Service Water Heating Systems**
				Issue: Policy Record Entry 00708 contains the most recent resolution of this issue. This issue (ID 00589) is only being retained to maintain a complete Policy Record. Partners have asked whether the ENERGY STAR Reference Design Definition, which currently sets the hot water use equal to that of the HERS Reference Home, should be changed with the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. ANSI/RESNET/ICC 301-2014, Addendum A-2015 defines a new methodology for calculating this value by incorporating features including: efficient clothes washers; efficient dishwashers; low-flow showers and faucets; water inlet, setpoint, and use temperatures; drain water heat recovery systems; pipe length; hot water pipe insulation; and the presence of a recirculation system with various control types. When originally defining the ENERGY STAR HERS Reference Home, such features were not credited. While the recognition of such features now allows partners to use them to improve the HERS index of the rated home, it is unclear whether the ENERGY STAR HERS Reference Home now incorporates any of these features.
				Resolution: Policy Record Entry 00708 contains the most recent resolution of this issue. This issue (ID 00589) is only being retained to maintain a complete Policy Record. So as not to increase the stringency of the ENERGY STAR program in between versions, the hot water use specified in the ENERGY STAR Reference Design Definition will continue to be set equal to HERS Reference Home. Effectively, this means that the ENERGY STAR HERS index target will be no more stringent than before the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. Furthermore, partners will be free to incorporate water efficiency features into their rated homes to both improve the HERS index target and help meet the ENERGY STAR HERS index target. Because the hot water use of the ENERGY STAR Reference Design Home will continue to align with the HERS Reference Home, no revisions are needed for that attribute. To reinforce

				that the ENERGY STAR Reference Design Home will not be configured with a recirculation system, the annual pump energy will be set to 0 kWh. To reflect this, a row will be added to the Service Water Heating System of Exhibit 2 that reads: "Recirculation Pump: 0 kWh per year"
00636	**09/01/2017**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Change**	**Exhibit 2 – Adjusted tank size when rated home has gas instant water heater**
				Issue: Partners have discovered that the ENERGY STAR HERS Index Target becomes more stringent when upgrading a rated home from a gas 50 gallon storage water heater to a gas instantaneous water heater. This is because the ENERGY STAR HERS Index Target procedure specifies that for a rated home with a gas instantaneous water heater, the ENERGY STAR Reference Design Home is to be configured with a gas 40 gallon storage water heater with a corresponding efficiency of 0.61 EF.
				Resolution: EPA did not intend to make the ENERGY STAR HERS index target more stringent when the rated home is upgraded from a storage water heater to an instant water heater. Partners have indicated that the most common gas storage water heater size is 50 gallons. In order to address this inadvertent impact on the ENERGY STAR HERS Index Target, when the rated home has a gas instantaneous water heater, the tank capacity specified in the Service Water Heating Systems section in Exhibit 2 will be changed.as follows: "Conventional storage water heater with tank size equal to that of Rated Home, unless Rated Home uses instantaneous water heater in which case select 50 gallon tank for gas systems and 60 gallon tank for electric systems…"
00710	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Clarification**	**Exhibit 2- Lighting, Appliances, & Internal Gains – Tier I lighting**
				Issue: Partners have asked if the lighting specified in this Section refers to Tier I or Tier II lighting.
				Resolution: To clarify that the lighting in this Section is intended to refer to Tier I lighting, the lighting portion of this Section will be revised as follows: "Lighting: Fraction of qualifying Tier I fixtures to all fixtures in qualifying light fixture locations: 80% for interior; 0% for exterior and garage"
00590	**08/08/2016**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Clarification**	**Lighting, Appliances, & Internal Gains - % qualifying lighting**
				Issue: Partners have asked if the percent of qualifying lighting specified in this Section refers to interior, outdoor, or garage lighting.
				Resolution: To clarify that the percent of qualifying lighting in this Section is intended to refer to the interior lighting, the lighting portion of this Section will be revised as follows:

				"Lighting: Fraction of qualifying fixtures to all fixtures in qualifying light fixture locations: 80% for interior; 0% for exterior and garage"
00711	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Clarification**	**Exhibit 2 - Lighting, Appliances, & Internal Gains – Dishwasher place setting capacity**
				Issue: Partners have noted that the dishwasher specified in this Section omits a value for dishwasher place setting capacity. This input is required to determine the consumption of the dishwasher, so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify that the dishwasher place setting capacity shall be set equal to the rated home, the dishwasher portion of this Section will be revised as follows: "Dishwasher: 0.66 EF, Place Setting Capacity Same as Rated Home"
00712	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Clarification**	**Exhibit 2 – Clothes washer and dryer configured with same efficiency as Energy Rating Reference Home**
				Issue: Partners have asked for clarification on how the clothes washer and dryer should be configured in the ENERGY STAR Reference Design Home. Currently, no guidance is provided specific to these appliances, yet a footnote states that, "Any parameter not specified in this exhibit shall be set to 'Same as Rated Home'". Therefore, partners have asked whether these appliances should be configured to align with the rated home or with the Energy Rating Reference Home.
				Resolution: The clothes washer and dryer in the ENERGY STAR Reference Design Home will be specified to be the same efficiency as the Energy Rating Reference Home. The Lighting, Appliances & Internal Gains section of Exhibit 2, Expanded ENERGY STAR Reference Design Definition, will be updated to reflect this by including a new cell with the following language: "Clothes Washer and Dryer: Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" A new Footnote will also be added to this cell to clarify that, "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter." Configuring the clothes washer and dryer in the ENERGY STAR Reference Design Home with the same efficiency as the Energy Rating Reference Home will give partners credit towards their ENERGY STAR HERS Index Target when using more efficient clothes washers and dryers. Furthermore, it will maintain the current stringency of the program requirements.
00713	**09/01/2018**	**HERS Index Target Procedure for National Program**	**Refinement**	**Footnote 10 - Alignment of window area terminology with Standard 301**
				Issue: The terminology in Footnote 10, used when calculating the Reference Home's total window area for homes with conditioned basements and attached homes, is not fully aligned with Footnote (b) of Table 4.2.2(1) of ANSI / RESNET / ICC Standard 301-2014.

		Requirements (Version 3, Rev. 08)		**Resolution:** To align with the terminology used in Standard 301 and prevent potential confusion, Footnote 10 will be revised. The equation will be updated as follows: "AG = 0.15 x CFA x FA x F" The first set of bullet points will be updated as follows: • "AG = Total glazing area • CFA = Total conditioned floor area • FA = (Gross above-grade thermal boundary wall area) / (Gross above-grade thermal boundary wall area + 0.5 x Gross below-grade thermal boundary wall area) • F = 1 - 0.44 x (Gross common wall area) / (Gross above-grade thermal boundary wall area + Gross common wall area)" The second set of bullet points will be updated as follows: • "Thermal boundary wall is any wall that separates Conditioned Space from Unconditioned Space, outdoor environment, or the surrounding soil; • Above-grade thermal boundary wall is any portion of a thermal boundary wall not in contact with soil; • Below-grade thermal boundary wall is any portion of a thermal boundary wall in soil contact; and • Common wall is the total wall area of walls adjacent to another conditioned living unit, not including foundation walls."
00591	**08/08/2016**	**HERS Index Target Procedure for National Program Requirements (Version 3, Rev. 08)**	**Clarification**	**Footnote 11 – Updated reference to RESNET standard**
				Issue: Policy Record Entry 00708 contains the most recent resolution of this issue. This issue (ID 00591) is only being retained to maintain a complete Policy Record. The Footnote that contains the reference to RESNET's standard for configuring the HERS Reference Home is outdated now that ANSI/RESNET/ICC Standard 301-2014 has been published. Standard 301, the "Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index", is the ANSI standard that supersedes RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard.
				Resolution: Policy Record Entry 00708 contains the most recent resolution of this issue. This issue (ID 00591) is only being retained to maintain a complete Policy Record. To clarify how certain parameters of the ENERGY STAR Reference Design should be configured, references to RESNET's 2006 Mortgage Industry National Home Energy Rating

				Systems Standard will be replaced with a reference to ANSI/RESNET/ICC Standard 301-2014, as follows: "RESNET requires that all RESNET-accredited Home Energy Rating software programs automatically configure this parameter per ANSI/RESNET/ICC Standard 301-2014 when calculating a HERS index value."
00672	**06/29/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to "National HERS Index Target Procedure (Version 3.1, Rev. 08)". Additionally, any references to this document in other program documents will be updated to use the updated title.
00637	**09/01/2017**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Elimination of Size Adjustment Factor in HERS Index Target Procedure**
				Issue: Partners in Texas have expressed difficulty meeting the Version 3.1 ENERGY STAR HERS Index Target for Climate Zone 3, particularly for homes impacted the Size Adjustment Factor (SAF). The Version 3.1 ENERGY STAR HERS Index Targets in Climate Zone 3 are already among the most aggressive, even for homes not impacted by the SAF. While Partners indicated that a minority of homes are impacted by the SAF, for those that are impacted, Partners have expressed that few additional cost-effective measures are available at this time to compensate for the SAF.
				Resolution: In order to address the challenges Partners have had in meeting the ENERGY STAR HERS Index Target, while not significantly impacting energy savings, the SAF will be removed. For consistency, this change will be applied to all Climate Zones. As a result of removing the SAF, Exhibit 1: Benchmark Home Size and associated Footnotes 1 through 3 will be deleted. Additionally, Exhibit 2: Expanded ENERGY STAR Reference Design Definition will be relabeled Exhibit 1. Finally, the language from Step 1 and Step 3 will be condensed as follows: "A RESNET-accredited Home Energy Rating software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home. This shall be done by configuring the ENERGY STAR Reference Design Home in accordance with Exhibit 1, the Expanded ENERGY STAR Reference Design Definition, and calculating its associated HERS Index value. This value, rounded to the nearest whole number, shall equal the ENERGY STAR HERS Index Target."

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00714	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Clarification**	**References updated to latest RESNET standard and various parameters clarified**
				Issue: This document contains numerous references to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Hence, the current references are outdated. In addition, several parameters require clarification as to how they should be configured in the ENERGY STAR Reference Design Home.
				Resolution: References to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard" will be updated to the ANSI-standard version. In addition, references to specific sections of the standard will be replaced with more general references to prevent outdated references as the standard continues to be revised. Finally, the configuration of Service Water Heating Systems and Internal Gains will be clarified. To reflect these clarifications, the following edits will be made: • In the Glazing: Interior Shade Coefficient Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" • In the Service Water Heating Systems: Use (Gallons per Day) Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for reduced usage resulting from the dishwasher specified in the Lighting, Appliances, & Internal Gains Section." In addition, this will be associated with a new Footnote as follows: "That is to say, representative of standard-flow plumbing fixtures, reference clothes washer gallons per day, standard distribution system water use effectiveness, a hot water piping ratio of 1.0, no pipe insulation, and no drainwater heat recovery." • Service Water Heating Systems: Tank Temperature Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301". • Thermostat: Temperature Setpoints Section: "Same as Energy Rating Reference Home, but with offsets for a programmable thermostat, as defined by ANSI / RESNET / ICC Std. 301" • Lighting, Appliances, & Internal Gains: Internal Gains Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for adjustments for the lighting, refrigerator, dishwasher, and ceiling fans specified in this Section." • Internal Mass Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301".

				• Footnote 10: This Footnote contained the reference to the outdated version of the RESNET standard and will be deleted. • In addition to these edits, a new Footnote will be associated with all parameters included above, as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter."
00715	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Exhibit 2 - Heating Systems and Cooling Systems – Equipment capacity and EAE**
				Issue: Partners have asked EPA about two attributes of heating and cooling equipment in the ENERGY STAR Reference Design Home. The first is about the acceptable methodologies for selecting the capacity of the heating and cooling equipment. Partners have noted that ANSI / RESNET / ICC Std. 301 has refined language regarding this process. More importantly, Std. 301 does not allow the equipment capacity of the rated home to be used for the Energy Rating Reference Home. This option was included for the ENERGY STAR Reference Design Home when ENERGY STAR Version 3 was first drafted to ease the burden for ERI software programs. However, it appears that none of the software providers are using this option. The second attribute is the Electric Auxiliary Energy (EAE) of non-electric warm furnaces and non-electric boilers. This attribute is not specified, yet can potentially have a significant impact on the efficiency of the home so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify the configuration of these two attributes, the Heating Systems and Cooling Systems Sections will be revised as follows: In the Heating Systems Section, the first row will be revised as follows: "Heating capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure". In the Heating Systems Section, a new row will be added at the bottom of this section with the following language: "For non-electric warm furnaces and non-electric boilers, the Electric Auxiliary Energy shall be determined in accordance with the methodology for the Energy Rating Reference Home in ANSI / RESNET / ICC Std. 301, using the capacity determined in this Section". This will be associated with a new Footnote as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter." In the Cooling Section, the first row will be revised as follows: "Cooling capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure".

00638	**09/01/2017**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Exhibit 2 – Climate Zone 3 furnace reduced from 90 to 80 AFUE**
				Issue: Partners have expressed difficulty meeting the Version 3.1 HERS Index Target for Climate Zone 3, which has more aggressive targets relative to other climate zones. Specifically, partners in TX have noted that 90 AFUE furnaces are rarely installed and not perceived to be cost-effective.. While the use of a 90 AFUE furnace is not mandatory, the Version 3.1 ENERGY STAR Reference Design home is configured with one in Climate Zone 3. Partners have indicated that there are few cost-effective measures available to compensate when a 90 AFUE furnace is omitted. EPA analyzed the impact of changing the gas furnace efficiency from 90 AFUE to 80 AFUE in Climate Zone 3, and found that meaningful energy savings for the ENERGY STAR Reference Home were maintained.
				Resolution: In order to address the challenges Partners have had in meeting the HERS Index Target for Climate Zone 3, while maintaining meaningful energy savings, the Gas Furnace AFUE for CZ 3 in the Heating Systems section of Exhibit 2 will be revised to “80”.
00592	**08/08/2016**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Clarification**	**Exhibit 2 - Service Water Heating Systems**
				Issue: Policy Record Entry 00714 contains the most recent resolution of this issue. This issue (ID 00592) is only being retained to maintain a complete Policy Record. Partners have asked whether the ENERGY STAR Reference Design Definition, which currently sets the hot water use equal to that of the HERS Reference Home, should be changed with the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. ANSI/RESNET/ICC 301-2014, Addendum A-2015 defines a new methodology for calculating this value by incorporating features including: efficient clothes washers; efficient dishwashers; low-flow showers and faucets; water inlet, setpoint, and use temperatures; drain water heat recovery systems; pipe length; hot water pipe insulation; and the presence of a recirculation system with various control types. When originally defining the ENERGY STAR HERS Reference Home, such features were not credited. While the recognition of such features now allows partners to use them to improve the HERS index of the rated home, it is unclear whether the ENERGY STAR HERS Reference Home now incorporates any of these features.
				Resolution: Policy Record Entry 00714 contains the most recent resolution of this issue. This issue (ID 00592) is only being retained to maintain a complete Policy Record. So as not to increase the stringency of the ENERGY STAR program in between versions, the hot water use specified in the ENERGY STAR Reference Design Definition will continue to be set equal to HERS Reference Home. Effectively, this means that the ENERGY STAR HERS index target will be no more stringent than before the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. Furthermore,

				partners will be free to incorporate water efficiency features into their rated homes to both improve the HERS index target and help meet the ENERGY STAR HERS index target. Because the hot water use of the ENERGY STAR Reference Design Home will continue to align with the HERS Reference Home, no revisions are needed for that attribute. To reinforce that the ENERGY STAR Reference Design Home will not be configured with a recirculation system, the annual pump energy will be set to 0 kWh. To reflect this, a row will be added to the Service Water Heating System of Exhibit 2 that reads: "Recirculation Pump: 0 kWh per year"
00639	**09/01/2017**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Exhibit 2 – Adjusted tank size when rated home has gas instant water heater**
				Issue: Partners have discovered that the ENERGY STAR HERS Index Target becomes more stringent when upgrading a rated home from a gas 50 gallon storage water heater to a gas instantaneous water heater. This is because the ENERGY STAR HERS Index Target procedure specifies that for a rated home with a gas instantaneous water heater, the ENERGY STAR Reference Design Home is to be configured with a gas 40 gallon storage water heater with a corresponding efficiency of 0.61 EF.
				Resolution: EPA did not intend to make the ENERGY STAR HERS index target more stringent when the rated home is upgraded from a storage water heater to an instant water heater. Partners have indicated that the most common gas storage water heater size is 50 gallons. In order to address this inadvertent impact on the ENERGY STAR HERS Index Target, when the rated home has a gas instantaneous water heater, the tank capacity specified in the Service Water Heating Systems section in Exhibit 2 will be changed.as follows: "Conventional storage water heater with tank size equal to that of Rated Home, unless Rated Home uses instantaneous water heater in which case select 50 gallon tank for gas systems and 60 gallon tank for electric systems…"
00716	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Clarification**	**Exhibit 2- Lighting, Appliances, & Internal Gains – Tier I lighting**
				Issue: Partners have asked if the lighting specified in this Section refers to Tier I or Tier II lighting.
				Resolution: To clarify that the lighting in this Section is intended to refer to Tier I lighting, the lighting portion of this Section will be revised as follows: "Lighting: Fraction of qualifying Tier I fixtures to all fixtures in qualifying light fixture locations: 90% for interior; 0% for exterior and garage"
00593	**08/08/2016**		**Clarification**	**Lighting, Appliances, & Internal Gains - % qualifying lighting**

		HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)		**Issue:** Partners have asked if the percent of qualifying lighting specified in this Section refers to interior, outdoor, or garage lighting.
				Resolution: To clarify that the percent of qualifying lighting in this Section is intended to refer to the interior lighting, the lighting portion of this Section will be revised as follows: "Lighting: Fraction of qualifying fixtures to all fixtures in qualifying light fixture locations: 90% for interior; 0% for exterior and garage"
00717	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Clarification**	**Exhibit 2 - Lighting, Appliances, & Internal Gains – Dishwasher place setting capacity**
				Issue: Partners have noted that the dishwasher specified in this Section omits a value for dishwasher place setting capacity. This input is required to determine the consumption of the dishwasher, so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify that the dishwasher place setting capacity shall be set equal to the rated home, the dishwasher portion of this Section will be revised as follows: "Dishwasher: 0.66 EF, Place Setting Capacity Same as Rated Home"
00718	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Clarification**	**Exhibit 2 – Clothes washer and dryer configured with same efficiency as Energy Rating Reference Home**
				Issue: Partners have asked for clarification on how the clothes washer and dryer should be configured in the ENERGY STAR Reference Design Home. Currently, no guidance is provided specific to these appliances, yet a footnote states that, "Any parameter not specified in this exhibit shall be set to 'Same as Rated Home'". Therefore, partners have asked whether these appliances should be configured to align with the rated home or with the Energy Rating Reference Home.
				Resolution: The clothes washer and dryer in the ENERGY STAR Reference Design Home will be specified to be the same efficiency as the Energy Rating Reference Home. The Lighting, Appliances & Internal Gains section of Exhibit 2, Expanded ENERGY STAR Reference Design Definition, will be updated to reflect this by including a new cell with the following language: "Clothes Washer and Dryer: Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" A new Footnote will also be added to this cell to clarify that, "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter." Configuring the clothes washer and dryer in the ENERGY STAR Reference Design Home with the same efficiency as the Energy Rating Reference Home will give partners credit towards their ENERGY STAR HERS Index Target when using more efficient clothes washers and dryers. Furthermore, it will maintain the current stringency of the program requirements.

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00594	**08/08/2016**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Clarification**	**Footnote 10 – Updated reference to RESNET standard**
				Issue: Policy Record Entry 00714 contains the most recent resolution of this issue. This issue (ID 00594) is only being retained to maintain a complete Policy Record. The Footnote that contains the reference to RESNET's standard for configuring the HERS Reference Home is outdated now that ANSI/RESNET/ICC Standard 301-2014 has been published. Standard 301, the "Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index", is the ANSI standard that supersedes RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard.
				Resolution: Policy Record Entry 00714 contains the most recent resolution of this issue. This issue (ID 00594) is only being retained to maintain a complete Policy Record. To clarify how certain parameters of the ENERGY STAR Reference Design should be configured, references to RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard will be replaced with a reference to ANSI/RESNET/ICC Standard 301-2014, as follows: "RESNET requires that all RESNET-accredited Home Energy Rating software programs automatically configure this parameter per ANSI/RESNET/ICC Standard 301-2014 when calculating a HERS index value"
00719	**09/01/2018**	**HERS Index Target Procedure for National Program Requirements (Version 3.1, Rev. 08)**	**Refinement**	**Footnote 9 - Alignment of window area terminology with Standard 301**
				Issue: The terminology in Footnote 9, used when calculating the Reference Home's total window area for homes with conditioned basements and attached homes, is not fully aligned with Footnote (b) of Table 4.2.2(1) of ANSI / RESNET / ICC Standard 301-2014.
				Resolution: To align with the terminology used in Standard 301 and prevent potential confusion, Footnote 9 will be revised. The equation will be updated as follows: "AG = 0.15 x CFA x FA x F" The first set of bullet points will be updated as follows: • "AG = Total glazing area • CFA = Total conditioned floor area • FA = (Gross above-grade thermal boundary wall area) / (Gross above-grade thermal boundary wall area + 0.5 x Gross below-grade thermal boundary wall area) • F = 1 - 0.44 x (Gross common wall area) / (Gross above-grade thermal boundary wall area + Gross common wall area)"

				The second set of bullet points will be updated as follows: • "Thermal boundary wall is any wall that separates Conditioned Space from Unconditioned Space, outdoor environment, or the surrounding soil; • Above-grade thermal boundary wall is any portion of a thermal boundary wall not in contact with soil; • Below-grade thermal boundary wall is any portion of a thermal boundary wall in soil contact; and • Common wall is the total wall area of walls adjacent to another conditioned living unit, not including foundation walls."
00720	**09/01/2018**	**California Program Requirements (Version 3.2, Rev. 08)**	**Change**	**Elimination of plant-certification pathway for modular homes**
				Issue: Currently, there are two paths for modular homes to earn ENERGY STAR certification: • A Rater-verification path, where a Rater is responsible for verifying all program requirements. This may require the Rater to complete inspections in the plant for features that are concealed prior to shipment, as well as complete inspections on-site. • A plant-certification path, where a Quality Assurance Provider (QAP) certifies that the plant has processes in place to consistently incorporate ENERGY STAR requirements into their production. In this path, the plant is responsible for the verification of some items, while a Rater is responsible for completing the verification process on-site. The existence of two pathways increases the complexity of the program. Furthermore, in the case of the plant-certification path, the division of verification responsibilities between two different parties has occasionally created confusion. EPA evaluated the use of the plant-certification path by partners, and found that only 36 homes were certified by three plants using this path in 2016. Upon conducting outreach with these three partners, none felt strongly about maintaining this path.
				Resolution: The plant-certification path for modular homes will be eliminated because it is not frequently utilized and may be causing confusion among partners. To further clarify the remaining certification process for modular homes, the Eligibility Requirements section will be updated to explicitly encompass modular homes and the ENERGY STAR Certification Process section will be updated to indicate that a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, the Version of the program requirements applicable to a modular home, which is currently based upon the home's "sale date", will be changed to be based upon the "permit date", to align with the policy for other site-built homes.

				To reflect these changes, the first line of the “Eligibility Requirements” section will be revised as follows: “The following site-built or modular homes are eligible to earn the ENERGY STAR:” The following sentence will be added to Step 4 of the ENERGY STAR Certification Process section: “For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment.” And a new Footnote, Footnote 1, will be added that reads as follows: “A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre–built sections are transported to the building site and constructed by a builder to meet all applicable building codes for site–built homes.”
00673	**06/29/2018**	**California Program Requirements (Version 3.2, Rev. 08)**	**Change**	**Determining program implementation date in California**
				Issue: Partners in California have requested a change in the date used to determine which program version a home should be certified under in that state. Currently, the program requirements indicate that the ‘permit date’ is the date to be used to determine which version to use to certify a home, where ‘permit date’ is defined as either the date that the permit was issued or the date of the contract on the home. However, the permitting process in California creates the following challenges with this approach for tract housing: • Because the efficiency features for an entire tract of housing, which may be developed over 18-24 months, are determined all at once prior to the development of the first lot, implementing a new version of ENERGY STAR for a subset of homes in the tract could require time-intensive and expensive re-approval of the plans. • Because construction permits in California expire relatively quickly, typically 120-180 days after the issue date, and due to the high cost of pulling construction permits in the state, builders cannot simply pull all construction permits upon approval of the plans to lock-in the required program version, as is often done in jurisdictions outside the state.
				Resolution: To address the challenges listed above, the criteria for determining the implementation date in California will be changed such that when a jurisdiction approves a home plan and its efficiency features for use on a specific lot or tract, the date that this approval occurs will be used to determine the version required to certify a home constructed with that plan and efficiency features. To reflect this change, Footnote 8 will be changed as follows: “This Revision of the California Program Requirements is required to certify all homes with a plan approval date and permit issue date after 07/01/2018, but is allowed to be used for any home permitted or completed prior to this date. The ‘plan approval date’ is the date that a jurisdiction approves a home plan

				and its efficiency features for use on a specific lot or tract. The Rater may define the 'permit date' as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented."
00659	**04/11/2018**	**California Program Requirements (Version 3.2, Rev. 08)**	**Clarification**	**On-site power generation permitted to satisfy code, but not the above-code performance target**
				Issue: Partners have noted that Step 2 of the ENERGY STAR Certification Process states in part that, "on-site power generation may not be used to meet the performance target" of the program. While the program requires its performance target to be met using efficiency alone, this has created some confusion in California, which allows photovoltaics to be used to partially satisfy its energy code, the 2016 Building Energy Efficiency Standards. Builder partners have provided feedback that if they were required to first remove photovoltaics used to satisfy code and then compensate for this using only efficiency measures, plus add additional efficiency measures to meet the above-code performance target, the program may not be cost-effective for their homes.
				Resolution: First, the program will affirm that on-site power generation may not be used to meet the Delta EDR performance target. Compliance must be demonstrated using the EDR score that excludes photovoltaics. The EDR pathway provides a more generous credit for photovoltaics than under the Compliance Total pathway, and also rewards incremental increases in photovoltaics. Second, the program will clarify that while on-site power generation may not be used to meet the above-code Compliance Total performance target, it is allowed to be used to satisfy code requirements in accordance with the 2016 Building Energy Efficiency Standards. Unlike the EDR pathway, this pathway provides a smaller fixed credit for photovoltaics and does not reward incremental increases. While the final home may include both PV and efficiency measures, the resulting home will be better than code and will utilize no more than the code-permitted amount of photovoltaics. Because Raters will not be able to necessarily assess the sequence in which photovoltaics and efficiency measures were added, compliance with the Compliance Total pathway will be demonstrated by simply ensuring that the home meets the performance target of the program. To reflect this clarification, Step 1 will be revised as follows: a) A Delta Energy Design Rating (Delta EDR) of ≥3 points, as determined by a CEC-approved software program. On-site power generation may not be used to meet the performance target and must be demonstrated using the EDR score that excludes photovoltaics.

				b) A Compliance Total with ≥10% savings above the Compliance Total of the Standard Design corresponding to the home, as determined by a CEC-approved software program. On-site power generation may not be used to meet the above-code performance target, though it is permitted to be used to satisfy code, in accordance with the 2016 Building Energy Efficiency Standards." Step 2 will be revised by removing the last sentence: "Furthermore, on-site power generation may not be used to meet the performance target."
00721	**09/01/2018**	**California Program Requirements (Version 3.2, Rev. 08)**	**Clarification**	**Explicit requirement for homes to be registered and receive rating**
				Issue: While implied, there is currently no language in the ENERGY STAR Certification Process section that explicitly requires partners to register homes in California with a CEC-approved HERS Provider. This step is critical to ensure that the home is encompassed by the quality assurance protocols defined by that oversight organization.
				Resolution: In order to ensure that ENERGY STAR certified homes in California are encompassed by an oversight organization's quality assurance protocols, ENERGY STAR Certified Homes will be explicitly required to receive a rating and be registered with a CEC-approved HERS Provider. The first paragraph under Step 4 of the ENERGY STAR Certification Process will be updated as follows: "4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with Data Input requirements and On-Site Inspection Procedures for California HERS Ratings. Finally, register the rated home with a CEC-approved HERS Provider. The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report."
00722	**09/01/2018**	**California Program Requirements (Version 3.2, Rev. 08)**	**Refinement**	**Effective Date Section – Revised structure and format of Implementation Timeline**
				Issue: The Effective Date Section varies in structure across program requirements, creating potential confusion. In addition, the implementation timeline information contained within the Exhibit in this Section does not consistently document prior and future Versions of the program, and does not currently incorporate the implementation timelines of both Versions and Revisions.
				Resolution: To help ensure partners are aware of the implementation timeline(s) applicable to the homes that they certify, the Effective Date section will be revised to make the overall structure consistent. Furthermore, the Exhibit containing the implementation timelines will be revised to include the Version(s) and Revision(s) that was applicable for the two years prior to the date of publication, as well as all future Versions and Revisions that are applicable to each location. With this refinement to the Exhibit, the first sentence of Footnote 8 will be removed as

<table>
<tr><td></td><td></td><td></td><td></td><td>the revised Implementation Timeline contains this information. These refinements will be reflected as follows:

Effective Date

To determine the program Version and Revision that a home is required to be certified under, look up the plan approval date and permit issue date of the home in Exhibit 2. Program requirements for other locations can be found at www.energystar.gov/newhomesrequirements.
This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.
Exhibit 2: ENERGY STAR Certified Homes Implementation Timeline for California
<table>
<tr><th>State / Territory</th><th>Homes With Plan Approval Date and Permit Issue Date On or After This Date Must Meet the Adjacent Version & Revision</th><th>Version</th><th>Revision</th></tr>
<tr><td rowspan="3">CA</td><td>04-01-2016</td><td>California v3.1</td><td>Rev. 08</td></tr>
<tr><td>07-01-2018</td><td>California v3.2</td><td>Rev. 08</td></tr>
<tr><td>01-01-2019</td><td>California v3.2</td><td>Rev. 09</td></tr>
</table></td></tr>
<tr><td>00782</td><td>09/01/2018</td><td>California Program Requirements (Version 3.2, Rev. 08)</td><td>Change</td><td>Exhibit 2 - Continued Use of Rev. 08 HVAC Design Report</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Issue: Partners have noted that the HVAC Design Report is only required to be collected once per system design, even if multiple homes are built using this design. Due to the effort required to collect the HVAC Design Report, they have asked whether previously collected Rev. 08 documentation can continue to be used after the release of the next Revision of the program requirements, so long as no aspect of the system design changes.</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Resolution: Because the next Revision of the HVAC Design Report will not require collection of any additional information or impose any new requirements, and will maintain or increase compliance tolerances, a design documented using Rev. 08 of the HVAC Design Report would, by definition, meet the requirements of the next Revision. Therefore, previously collected Rev. 08 HVAC Design Reports will be permitted to be used after the release of the next Revision of the program requirements, so long as the no aspect of the system design changes. To reflect this change, a new Footnote will be added to Exhibit 2, as follows: “Homes certified under Rev.</td></tr>
</table>

				09 of the program requirements are permitted to use either Rev. 08 or 09 of the National HVAC Design Report.”
00723	**09/01/2018**	**California Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Elimination of plant-certification pathway for modular homes**
				Issue: Currently, there are two paths for modular homes to earn ENERGY STAR certification: • A Rater-verification path, where a Rater is responsible for verifying all program requirements. This may require the Rater to complete inspections in the plant for features that are concealed prior to shipment, as well as complete inspections on-site. • A plant-certification path, where a Quality Assurance Provider (QAP) certifies that the plant has processes in place to consistently incorporate ENERGY STAR requirements into their production. In this path, the plant is responsible for the verification of some items, while a Rater is responsible for completing the verification process on-site. The existence of two pathways increases the complexity of the program. Furthermore, in the case of the plant-certification path, the division of verification responsibilities between two different parties has occasionally created confusion. EPA evaluated the use of the plant-certification path by partners, and found that only 36 homes were certified by three plants using this path in 2016. Upon conducting outreach with these three partners, none felt strongly about maintaining this path.
				Resolution: The plant-certification path for modular homes will be eliminated because it is not frequently utilized and may be causing confusion among partners. To further clarify the remaining certification process for modular homes, the Eligibility Requirements section will be updated to explicitly encompass modular homes and the ENERGY STAR Certification Process section will be updated to indicate that a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, the Version of the program requirements applicable to a modular home, which is currently based upon the home’s “sale date”, will be changed to be based upon the “permit date”, to align with the policy for other site-built homes. To reflect these changes, the first line of the “Eligibility Requirements” section will be revised as follows: “The following site-built or modular homes are eligible to earn the ENERGY STAR:” The following sentence will be added to Step 4 of the ENERGY STAR Certification Process section: “For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment.”

				And a new Footnote, Footnote 1, will be added that reads as follows: "A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre–built sections are transported to the building site and constructed by a builder to meet all applicable building codes for site–built homes."
00769	**06/29/2018**	**California Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Determining program implementation date in California**
				Issue: Partners in California have requested a change in the date used to determine which program version a home should be certified under in that state. Currently, the program requirements indicate that the 'permit date' is the date to be used to determine which version to use to certify a home, where 'permit date' is defined as either the date that the permit was issued or the date of the contract on the home. However, the permitting process in California creates the following challenges with this approach for tract housing: • Because the efficiency features for an entire tract of housing, which may be developed over 18-24 months, are determined all at once prior to the development of the first lot, implementing a new version of ENERGY STAR for a subset of homes in the tract could require time-intensive and expensive re-approval of the plans. • Because construction permits in California expire relatively quickly, typically 120-180 days after the issue date, and due to the high cost of pulling construction permits in the state, builders cannot simply pull all construction permits upon approval of the plans to lock-in the required program version, as is often done in jurisdictions outside the state.
				Resolution: To address the challenges listed above, the criteria for determining the implementation date in California will be changed such that when a jurisdiction approves a home plan and its efficiency features for use on a specific lot or tract, the date that this approval occurs will be used to determine the version required to certify a home constructed with that plan and efficiency features. To reflect this change, Footnote 9 will be changed as follows: "This Revision of the California Program Requirements is required to certify all homes with a plan approval date and permit issue date after 04/01/2016, but is allowed to be used for any home permitted or completed prior to this date. The 'plan approval date' is the date that a jurisdiction approves a home plan and its efficiency features for use on a specific lot or tract. The Rater may define the 'permit date' as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented."
00610	**02/23/2017**		**Change**	**Eligibility Requirements: Criteria for dwelling units in four and five story buildings**

		California Program Requirements (Version 3.1, Rev. 08)		**Issue:** Partners have indicated that the eligibility requirements for dwelling units in four and five story buildings sometimes cause unintended challenges. Currently, dwelling units with their own heating, cooling, and hot water systems are generally required to be certified using the ENERGY STAR certified homes program, while units with shared systems must be certified using the ENERGY STAR Multifamily High-Rise program. Because the requirements are substantially different between the two programs, and the decision to use individual or shared systems is sometimes beyond the control of the design team, including the system type in the eligibility requirements is causing the unintended challenges. Dwelling units with shared systems were initially excluded due to a lack of modeling guidance readily available to ENERGY STAR Raters. With the availability of RESNET's Guidelines for Multifamily Ratings, modeling guidance is now available to address the most common central heating, cooling and hot water systems used in multifamily buildings.
				Resolution: To address the challenges that partners are experiencing with the current eligibility requirements, the criteria related to heating, cooling, and hot water systems will be removed from the national program requirements. The eligibility requirement in the fourth bullet of the Eligibility Requirements section will be revised to state: "Dwelling units in multifamily buildings with 4 or 5 stories above-grade where dwelling units occupy 80% or more of the occupiable square footage of the building[4,5]. When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met." Footnote 4 will be revised to state: "These units may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program. If participating in the Certified Homes Program and the dwelling unit is served by a central heating, cooling, or hot water system, use of the RESNET Guidelines for Multifamily Ratings for modeling the specified central system(s) is recommended." Footnote 5 will be revised to state: "If permitted prior to July 1, 2012, units in multifamily buildings with 4 or 5 stories above-grade may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program, without assessing whether the 80% threshold has been met."
00611	**02/23/2017**	**California Program Requirements (Version 3.1, Rev. 08)**	**Change**	**Determining stories in multifamily buildings with partial floors**
				Issue: Partners have asked whether partial floors in multifamily buildings (e.g., a penthouse, a loft, or a mezzanine) contribute to the total number of stories for the purposes of determining eligibility to participate in the program.
				Resolution: Not all partial floors in multifamily buildings should contribute to the total number of stories for the purposes of determining eligibility to participate in the program.

				First, consistent with the 2012 IRC, a loft or mezzanine is defined as an intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located. When determining the number of stories of a multifamily building, a partial floor that meets the definition of a loft or mezzanine shall not count as a story. For example, if the lower floor area of a dwelling unit is 100 sq. ft. and a partial second floor is 25 sq. ft., then the partial second floor is 20% of the total floor area of the dwelling unit (25/125 = 20%). Because 20% is less than 33%, the partial second floor is considered a loft or mezzanine and does not count as a story.
00724	**09/01/2018**	**California Program Requirements (Version 3.1, Rev. 08)**	**Clarification**	**Explicit requirement for homes to be registered and receive rating**
				Issue: While implied, there is currently no language in the ENERGY STAR Certification Process section that explicitly requires partners to register homes in California with a CEC-approved HERS Provider. This step is critical to ensure that the home is encompassed by the quality assurance protocols defined by that oversight organization.
				Resolution: In order to ensure that ENERGY STAR certified homes in California are encompassed by an oversight organization's quality assurance protocols, ENERGY STAR Certified Homes will be explicitly required to receive a rating and be registered with a CEC-approved HERS Provider. The first paragraph under Step 4 of the ENERGY STAR Certification Process will be updated as follows: "4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with Data Input requirements and On-Site Inspection Procedures for California HERS Ratings. Finally, register the rated home with a CEC-approved HERS Provider. The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report."
00725	**09/01/2018**	**California Program Requirements (Version 3.1, Rev. 08)**	**Refinement**	**Effective Date Section – Revised structure and format of Implementation Timeline**
				Issue: The Effective Date Section varies in structure across program requirements, creating potential confusion. In addition, the implementation timeline information contained within the Exhibit in this Section does not consistently document prior and future Versions of the program, and does not currently incorporate the implementation timelines of both Versions and Revisions.
				Resolution: To help ensure partners are aware of the implementation timeline(s) applicable to the homes that they certify, the Effective Date section will be revised to make the overall structure consistent. Furthermore, the Exhibit containing the implementation timelines will be revised to include the Version(s) and Revision(s) that was applicable for the two years prior to the date of publication, as well as all future Versions and Revisions that are applicable to each

<table>
<tr><td></td><td></td><td></td><td></td><td>location. With this refinement to the Exhibit, the first sentence of Footnote 9 will be removed as the revised Implementation Timeline contains this information. These refinements will be reflected as follows:

Effective Date

To determine the program Version and Revision that a home is required to be certified under, look up the plan approval date and permit issue date of the home in Exhibit 2. Program requirements for other locations can be found at www.energystar.gov/newhomesrequirements.
This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.
Exhibit 2: ENERGY STAR Certified Homes Implementation Timeline for California
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<tr><td>07-01-2018</td><td>California v3.2</td><td>Rev. 08</td></tr>
<tr><td>01-01-2019</td><td>California v3.2</td><td>Rev. 09</td></tr>
</table></td></tr>
<tr><td>00783</td><td>09/01/2018</td><td>California Program Requirements (Version 3.1, Rev. 08)</td><td>Change</td><td>Exhibit 2 - Continued Use of Rev. 08 HVAC Design Report</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Issue: Partners have noted that the HVAC Design Report is only required to be collected once per system design, even if multiple homes are built using this design. Due to the effort required to collect the HVAC Design Report, they have asked whether previously collected Rev. 08 documentation can continue to be used after the release of the next Revision of the program requirements, so long as no aspect of the system design changes.</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Resolution: Because the next Revision of the HVAC Design Report will not require collection of any additional information or impose any new requirements, and will maintain or increase compliance tolerances, a design documented using Rev. 08 of the HVAC Design Report would, by definition, meet the requirements of the next Revision. Therefore, previously collected Rev. 08 HVAC Design Reports will be permitted to be used after the release of the next Revision of the program requirements, so long as the no aspect of the system design changes. To reflect</td></tr>
</table>

				this change, a new Footnote will be added to Exhibit 2, as follows: “Homes certified under Rev. 09 of the program requirements are permitted to use either Rev. 08 or 09 of the National HVAC Design Report.”
00674	**06/29/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to “Florida Program Requirements (Version 3.1, Rev. 08)”. Additionally, any references to this document in other program documents will be updated to use the updated title.
00660	**04/11/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Refinement**	**Incrementing Revision number from 06 to 09**
				Issue: Partners have asked why the program requirements for this region have a different Revision number than the national program. This misalignment has caused confusion about what the most current program requirements are.
				Resolution: In the time since the initial release of the Version 3.1 Program Requirements, several region-specific programs have been developed. The initial release of each set of regional program requirements occurred at various times, often not in alignment with the release of a Revision to the national program requirements. This naming convention was used so that each regional program would progress from an initial release through subsequent revision numbers (e.g., Rev. 01, 02, 03). However, partners’ primary perception of the program is tied to the inspection checklists. As a result, having the same foundational checklists used in the regional programs and the national program, each with a different Revision number, has caused confusion. To reduce confusion over the difference in Revision numbers between these regional program requirements and the national program requirements, the next Revision will be incremented from 06 to 09 to align with the national program requirements. As a result, Revision numbers 07 through 08 will not be used.
00654	**02/07/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Comment**	**Continued implementation of Version 3.1 in Florida**
				Issue: Partners have questioned whether a new Version of the program requirements will be developed in response to the latest version of Florida’s residential building energy code. This code, with an effective date of 12/31/2017, incorporates the 2015 IECC with substantive amendments.
				Resolution: An analysis was completed to estimate the savings of a Florida Version 3.1 home relative to the latest version of Florida’s residential building energy code. This analysis suggests

				that Florida Version 3.1 will continue to offer meaningful savings relative to the latest code. Therefore, the current Version of the program requirements will continue to be implemented in Florida. A new Version will not be implemented in Florida until another state-level code update occurs or until EPA defines a new nationwide Version of the program requirements.
00726	**09/01/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Change**	**Elimination of plant-certification pathway for modular homes**
				Issue: Currently, there are two paths for modular homes to earn ENERGY STAR certification: • A Rater-verification path, where a Rater is responsible for verifying all program requirements. This may require the Rater to complete inspections in the plant for features that are concealed prior to shipment, as well as complete inspections on-site. • A plant-certification path, where a Quality Assurance Provider (QAP) certifies that the plant has processes in place to consistently incorporate ENERGY STAR requirements into their production. In this path, the plant is responsible for the verification of some items, while a Rater is responsible for completing the verification process on-site. The existence of two pathways increases the complexity of the program. Furthermore, in the case of the plant-certification path, the division of verification responsibilities between two different parties has occasionally created confusion. EPA evaluated the use of the plant-certification path by partners, and found that only 36 homes were certified by three plants using this path in 2016. Upon conducting outreach with these three partners, none felt strongly about maintaining this path.
				Resolution: The plant-certification path for modular homes will be eliminated because it is not frequently utilized and may be causing confusion among partners. To further clarify the remaining certification process for modular homes, the Eligibility Requirements section will be updated to explicitly encompass modular homes and the ENERGY STAR Certification Process section will be updated to indicate that a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, the Version of the program requirements applicable to a modular home, which is currently based upon the home's "sale date", will be changed to be based upon the "permit date", to align with the policy for other site-built homes. To reflect these changes, the first line of the "Eligibility Requirements" section will be revised as follows: "The following site-built or modular homes are eligible to earn the ENERGY STAR:" The following sentence will be added to Step 3 of the ENERGY STAR Certification Process section:

				"For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment." And a new Footnote, Footnote 1, will be added that reads as follows: "A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre–built sections are transported to the building site and constructed by a builder to meet all applicable building codes for site–built homes."
00612	**02/23/2017**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Change**	**Eligibility Requirements: Criteria for dwelling units in four and five story buildings**
				Issue: Partners have indicated that the eligibility requirements for dwelling units in four and five story buildings sometimes cause unintended challenges. Currently, dwelling units with their own heating, cooling, and hot water systems are generally required to be certified using the ENERGY STAR certified homes program, while units with shared systems must be certified using the ENERGY STAR Multifamily High-Rise program. Because the requirements are substantially different between the two programs, and the decision to use individual or shared systems is sometimes beyond the control of the design team, including the system type in the eligibility requirements is causing the unintended challenges. Dwelling units with shared systems were initially excluded due to a lack of modeling guidance readily available to ENERGY STAR Raters. With the availability of RESNET's Guidelines for Multifamily Ratings, modeling guidance is now available to address the most common central heating, cooling and hot water systems used in multifamily buildings.
				Resolution: To address the challenges that partners are experiencing with the current eligibility requirements, the criteria related to heating, cooling, and hot water systems will be removed from the national program requirements. The eligibility requirement in the fourth bullet of the Eligibility Requirements section will be revised to state: "Dwelling units in multifamily buildings with 4 or 5 stories above-grade where dwelling units occupy 80% or more of the occupiable square footage of the building[4,5]. When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met." Footnote 4 will be revised to state: "These units may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program. If participating in the Certified Homes Program and the dwelling unit is served by a central heating, cooling, or hot water system, use of the RESNET Guidelines for Multifamily Ratings for modeling the specified central system(s) is recommended." Footnote 5 will be revised to state: "If permitted prior to July 1, 2012, units in multifamily buildings with 4 or 5 stories above-grade may earn the ENERGY STAR through either the

				Certified Homes Program or the Multifamily High Rise (MFHR) Program, without assessing whether the 80% threshold has been met.”
00613	**02/23/2017**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Change**	**Determining stories in multifamily buildings with partial floors**
				Issue: Partners have asked whether partial floors in multifamily buildings (e.g., a penthouse, a loft, or a mezzanine) contribute to the total number of stories for the purposes of determining eligibility to participate in the program.
				Resolution: Not all partial floors in multifamily buildings should contribute to the total number of stories for the purposes of determining eligibility to participate in the program. First, consistent with the 2012 IRC, a loft or mezzanine is defined as an intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located. When determining the number of stories of a multifamily building, a partial floor that meets the definition of a loft or mezzanine shall not count as a story. For example, if the lower floor area of a dwelling unit is 100 sq. ft. and a partial second floor is 25 sq. ft., then the partial second floor is 20% of the total floor area of the dwelling unit (25/125 = 20%). Because 20% is less than 33%, the partial second floor is considered a loft or mezzanine and does not count as a story.
00640	**09/01/2017**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Change**	**Elimination of Size Adjustment Factor for HERS Index Target calculation**
				Issue: Partners in Texas have expressed difficulty meeting the Version 3.1 ENERGY STAR HERS Index Target for Climate Zone 3, particularly for homes impacted the Size Adjustment Factor (SAF). The Version 3.1 ENERGY STAR HERS Index Targets in Climate Zone 3 are already among the most aggressive, even for homes not impacted by the SAF. While Partners indicated that a minority of homes are impacted by the SAF, for those that are impacted, Partners have expressed that few additional cost-effective measures are available at this time to compensate for the SAF.
				Resolution: In order to address the challenges Partners have had in meeting the ENERGY STAR HERS Index Target, while not significantly impacting energy savings, the SAF will be removed from the HERS Index Target Procedure. As a result, Exhibit 3: Benchmark Home and the associated Footnote 9 will be removed. Additionally, because of the removal of the SAF, the last sentence of Step 1 of the ENERGY STAR Certification Process for Florida, which reads “Furthermore, on-site power generation may only be used to meet the ENERGY STAR HERS Index Target for homes that are larger than the Benchmark Home and only for the incremental change in the ENERGY STAR HERS Index Target caused by the Size Adjustment Factor”, is no longer relevant and will therefore will

				be modified to say ”Furthermore, on-site power generation may not be used to meet the ENERGY STAR HERS Index Target.”
00727	**09/01/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Clarification**	**Explicit requirement for homes to be registered and receive rating**
				Issue: While implied, there is currently no language in the ENERGY STAR Certification Process section that explicitly requires partners to register homes with an EPA-approved Verification Oversight Organization (VOO) such as RESNET. This step is critical to ensure that the home is encompassed by the quality assurance protocols defined by that VOO.
				Resolution: In order to ensure that ENERGY STAR certified homes are encompassed by a VOO’s quality assurance protocols, ENERGY STAR Certified Homes will be explicitly required to receive a rating and be registered with an EPA-approved VOO. The first paragraph under Step 3 of the ENERGY STAR Certification Process will be updated as follows: “3. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the on-site inspection procedures for minimum rated features of an EPA-Approved VOO. Finally, register the rated home with the same EPA-Approved VOO. The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report.”
00728	**09/01/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Refinement**	**Exhibit 1 - ENERGY STAR certified products specification versions**
				Issue: Partners have noted the efficiency levels of ENERGY STAR certified products in Exhibit 1: ENERGY STAR Reference Design Home may not always align with the efficiency levels in the most recent specification of an ENERGY STAR certified product. They have asked why this is the case and whether revisions to ENERGY STAR product specifications impact the program requirements.
				Resolution: Efficiency levels of products described as “ENERGY STAR” in the Reference Design Home aligned with the specifications for the ENERGY STAR certified product when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. This clarification will be reflected in a new Footnote to Exhibit 1: ENERGY STAR Reference Design Home as follows: “Note that the efficiency levels of ENERGY STAR certified products aligned with these product specifications when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. EPA recommends, but does not require, that current ENERGY STAR products be included in ENERGY STAR homes. For current ENERGY STAR products, visit www.energystar.gov/products.”

00770	**09/01/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Refinement**	**Exhibit 1 - References updated to latest RESNET standard**
				Issue: This document contains numerous references to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current references are outdated.
				Resolution: References to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edits will be made: • In the Envelope Section: "Insulation levels modeled to Grade I installation per ANSI / RESNET / ICC Standard 301" • In the Lighting & Appliances Section: "ENERGY STAR light bulbs modeled in 80% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations." In addition, where a specific version of Standard 301 is not specified, a new Footnote will be added as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings is used to model this parameter. "
00729	**09/01/2018**	**Florida Program Requirements (Version 3.1, Rev. 06)**	**Refinement**	**Effective Date Section – Revised structure and format of Implementation Timeline**
				Issue: The Effective Date Section varies in structure across program requirements, creating potential confusion. In addition, the implementation timeline information contained within the Exhibit in this Section does not consistently document prior and future Versions of the program, and does not currently incorporate the implementation timelines of both Versions and Revisions.
				Resolution: To help ensure partners are aware of the implementation timeline(s) applicable to the homes that they certify, the Effective Date section will be revised to make the overall structure consistent. Furthermore, the Exhibit containing the implementation timelines will be revised to include the Version(s) and Revision(s) that was applicable for the two years prior to the date of publication, as well as all future Versions and Revisions that are applicable to each location. With this refinement to the Exhibit, Footnote 12 and the first sentence of Footnote 11 will be removed as the revised Implementation Timeline contains this information. These refinements will be reflected as follows: **Effective Date** To determine the program Version and Revision that a home is required to be certified under, look up the permit date of the home in Exhibit 3. Program requirements for other locations can be found at www.energystar.gov/newhomesrequirements.

<table>
<tr><td></td><td></td><td></td><td></td><td>This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.
Exhibit 3: ENERGY STAR Certified Homes Implementation Timeline for Florida
<table>
<tr><th>State / Territory</th><th>Homes Permitted On or After This Date Must Meet the Adjacent Version & Revision</th><th>Version</th><th>Revision</th></tr>
<tr><td rowspan="2">FL</td><td>07-01-2016</td><td>Florida v3.1</td><td>Rev. 06</td></tr>
<tr><td>01-01-2019</td><td>Florida v3.1</td><td>Rev. 09</td></tr>
</table></td></tr>
<tr><td rowspan="3">00784</td><td rowspan="3">09/01/2018</td><td rowspan="3">Florida Program Requirements (Version 3.1, Rev. 06)</td><td rowspan="3">Change</td><td>Exhibit 4 - Continued Use of Rev. 08 HVAC Design Report</td></tr>
<tr><td>Issue: Partners have noted that the HVAC Design Report is only required to be collected once per system design, even if multiple homes are built using this design. Due to the effort required to collect the HVAC Design Report, they have asked whether previously collected Rev. 08 documentation can continue to be used after the release of the next Revision of the program requirements, so long as no aspect of the system design changes.</td></tr>
<tr><td>Resolution: Because the next Revision of the HVAC Design Report will not require collection of any additional information or impose any new requirements, and will maintain or increase compliance tolerances, a design documented using Rev. 08 of the HVAC Design Report would, by definition, meet the requirements of the next Revision. Therefore, previously collected Rev. 08 HVAC Design Reports will be permitted to be used after the release of the next Revision of the program requirements, so long as the no aspect of the system design changes. To reflect this change, a new Footnote will be added to Exhibit 4, as follows: “Homes certified under Rev. 09 of the program requirements are permitted to use either Rev. 08 or 09 of the National HVAC Design Report.”</td></tr>
<tr><td rowspan="3">00675</td><td rowspan="3">06/29/2018</td><td rowspan="3">HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)</td><td rowspan="3">Refinement</td><td>Updating document title for consistent naming format</td></tr>
<tr><td>Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.</td></tr>
<tr><td>Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to “Florida HERS Index Target Procedure (Version 3.1, Rev. 06)”. Additionally, any references to this document in other program documents will be updated to use the updated title.</td></tr>
</table>

00661	**04/11/2018**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Refinement**	**Incrementing Revision number from 06 to 09**
				Issue: Partners have asked why the program requirements for this region have a different Revision number than the national program. This misalignment has caused confusion about what the most current program requirements are.
				Resolution: In the time since the initial release of the Version 3.1 Program Requirements, several region-specific programs have been developed. The initial release of each set of regional program requirements occurred at various times, often not in alignment with the release of a Revision to the national program requirements. This naming convention was used so that each regional program would progress from an initial release through subsequent revision numbers (e.g., Rev. 01, 02, 03). However, partners' primary perception of the program is tied to the inspection checklists. As a result, having the same foundational checklists used in the regional programs and the national program, each with a different Revision number, has caused confusion. To reduce confusion over the difference in Revision numbers between these regional program requirements and the national program requirements, the next Revision will be incremented from 06 to 09 to align with the national program requirements. As a result, Revision numbers 07 through 08 will not be used.
00641	**09/01/2017**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Change**	**Elimination of Size Adjustment Factor for HERS Index Target Procedure**
				Issue: Partners in Texas have expressed difficulty meeting the Version 3.1 ENERGY STAR HERS Index Target for Climate Zone 3, particularly for homes impacted the Size Adjustment Factor (SAF). The Version 3.1 ENERGY STAR HERS Index Targets in Climate Zone 3 are already among the most aggressive, even for homes not impacted by the SAF. While Partners indicated that a minority of homes are impacted by the SAF, for those that are impacted, Partners have expressed that few additional cost-effective measures are available at this time to compensate for the SAF.
				Resolution: In order to address the challenges Partners have had in meeting the ENERGY STAR HERS Index Target, while not have significantly impacting energy savings, the SAF will be removed. For consistency, this change will be applied to all Climate Zones. Additionally, this change will be made to the HERS Index Target Procedure for the State of Florida to maintain consistency. As a result of removing the SAF, Exhibit 1: Benchmark Home Size and associated Footnotes 1 through 3 will be deleted. Additionally, Exhibit 2: Expanded ENERGY STAR Reference Design Definition for the State of Florida will be relabeled Exhibit 1. Finally, the language from Step 1 and Step 3 will be condensed as follows:

				"A RESNET-accredited Home Energy Rating software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home. This shall be done by configuring the ENERGY STAR Reference Design Home in accordance with Exhibit 1, the Expanded ENERGY STAR Reference Design Definition for the State of Florida, and calculating its associated HERS Index value. This value, rounded to the nearest whole number, shall equal the ENERGY STAR HERS Index Target."
00730	**09/01/2018**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Clarification**	**References updated to latest RESNET standard and various parameters clarified**
				Issue: This document contains numerous references to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Hence, the current references are outdated. In addition, several parameters require clarification as to how they should be configured in the ENERGY STAR Reference Design Home.
				Resolution: References to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard" will be updated to the ANSI-standard version. In addition, references to specific sections of the standard will be replaced with more general references to prevent outdated references as the standard continues to be revised. Finally, the configuration of Service Water Heating Systems and Internal Gains will be clarified. To reflect these clarifications, the following edits will be made: • In the Glazing: Interior Shade Coefficient Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" • In the Service Water Heating Systems: Use (Gallons per Day) Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for reduced usage resulting from the dishwasher specified in the Lighting, Appliances, & Internal Gains Section." In addition, this will be associated with a new Footnote as follows: "That is to say, representative of standard-flow plumbing fixtures, reference clothes washer gallons per day, standard distribution system water use effectiveness, a hot water piping ratio of 1.0, no pipe insulation, and no drainwater heat recovery." • Service Water Heating Systems: Tank Temperature Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301". • Thermostat: Temperature Setpoints Section: "Same as Energy Rating Reference Home, but with offsets for a programmable thermostat, as defined by ANSI / RESNET / ICC Std. 301" • Lighting, Appliances, & Internal Gains: Internal Gains Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for

				adjustments for the lighting, refrigerator, dishwasher, and ceiling fans specified in this Section." • Internal Mass Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301". • Footnote 10: This Footnote contained the reference to the outdated version of the RESNET standard and will be deleted. • In addition to these edits, a new Footnote will be associated with all parameters included above, as follows: "The version of ANSI / RESNT / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter."
00731	**09/01/2018**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Change**	**Exhibit 2 - Heating Systems and Cooling Systems – Equipment capacity and EAE**
				Issue: Partners have asked EPA about two attributes of heating and cooling equipment in the ENERGY STAR Reference Design Home. The first is about the acceptable methodologies for selecting the capacity of the heating and cooling equipment. Partners have noted that ANSI / RESNET / ICC Std. 301 has refined language regarding this process. More importantly, Std. 301 does not allow the equipment capacity of the rated home to be used for the Energy Rating Reference Home. This option was included for the ENERGY STAR Reference Design Home when ENERGY STAR Version 3 was first drafted to ease the burden for ERI software programs. However, it appears that none of the software providers are using this option. The second attribute is the Electric Auxiliary Energy (EAE) of non-electric warm furnaces and non-electric boilers. This attribute is not specified, yet can potentially have a significant impact on the efficiency of the home so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify the configuration of these two attributes, the Heating Systems and Cooling Systems Sections will be revised as follows: In the Heating Systems Section, the first row will be revised as follows: "Heating capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure". In the Heating Systems Section, a new row will be added at the bottom of this section with the following language: "For non-electric warm furnaces and non-electric boilers, the Electric Auxiliary Energy shall be determined in accordance with the methodology for the Energy Rating Reference Home in ANSI / RESNET / ICC Std. 301, using the capacity determined in this Section". This will be associated with a new Footnote as follows: "The version of ANSI /

				RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter." In the Cooling Systems Section, the first row will be revised as follows: "Cooling capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure".
00595	**08/08/2016**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Clarification**	**Exhibit 2 - Service Water Heating Systems**
				Issue: Policy Record Entry 00730 contains the most recent resolution of this issue. This issue (ID 00595) is only being retained to maintain a complete Policy Record. Partners have asked whether the ENERGY STAR Reference Design Definition, which currently sets the hot water use equal to that of the HERS Reference Home, should be changed with the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. ANSI/RESNET/ICC 301-2014, Addendum A-2015 defines a new methodology for calculating this value by incorporating features including: efficient clothes washers; efficient dishwashers; low-flow showers and faucets; water inlet, setpoint, and use temperatures; drain water heat recovery systems; pipe length; hot water pipe insulation; and the presence of a recirculation system with various control types. When originally defining the ENERGY STAR HERS Reference Home, such features were not credited. While the recognition of such features now allows partners to use them to improve the HERS index of the rated home, it is unclear whether the ENERGY STAR HERS Reference Home now incorporates any of these features.
				Resolution: Policy Record Entry 00730 contains the most recent resolution of this issue. This issue (ID 00595) is only being retained to maintain a complete Policy Record. So as not to increase the stringency of the ENERGY STAR program in between versions, the hot water use specified in the ENERGY STAR Reference Design Definition will continue to be set equal to HERS Reference Home. Effectively, this means that the ENERGY STAR HERS index target will be no more stringent than before the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. Furthermore, partners will be free to incorporate water efficiency features into their rated homes to both improve the HERS index target and help meet the ENERGY STAR HERS index target. Because the hot water use of the ENERGY STAR Reference Design Home will continue to align with the HERS Reference Home, no revisions are needed for that attribute. To reinforce that the ENERGY STAR Reference Design Home will not be configured with a recirculation system, the annual pump energy will be set to 0 kWh.

				To reflect this, a row will be added to the Service Water Heating System Section of Exhibit 2 that reads: "Recirculation Pump: 0 kWh per year"
00642	**09/01/2017**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Change**	**Exhibit 2 – Adjusted tank size when rated home has gas instant water heater**
				Issue: Partners have discovered that the ENERGY STAR HERS Index Target becomes more stringent when upgrading a rated home from a gas 50 gallon storage water heater to a gas instantaneous water heater. This is because the ENERGY STAR HERS Index Target procedure specifies that for a rated home with a gas instantaneous water heater, the ENERGY STAR Reference Design Home is to be configured with a gas 40 gallon storage water heater with a corresponding efficiency of 0.61 EF.
				Resolution: EPA did not intend to make the ENERGY STAR HERS index target more stringent when the rated home is upgraded from a storage water heater to an instant water heater. Partners have indicated that the most common gas storage water heater size is 50 gallons. In order to address this inadvertent impact on the ENERGY STAR HERS Index Target, when the rated home has a gas instantaneous water heater, the tank capacity specified in the Service Water Heating Systems section in Exhibit 2 will be changed.as follows: "Conventional storage water heater with tank size equal to that of Rated Home, unless Rated Home uses instantaneous water heater in which case select 50 gallon tank for gas systems and 60 gallon tank for electric systems…"
00732	**09/01/2018**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Clarification**	**Exhibit 2- Lighting, Appliances, & Internal Gains – Tier I lighting**
				Issue: Partners have asked if the lighting specified in this Section refers to Tier I or Tier II lighting.
				Resolution: To clarify that the lighting in this Section is intended to refer to Tier I lighting, the lighting portion of this Section will be revised as follows: "Lighting: Fraction of qualifying Tier I fixtures to all fixtures in qualifying light fixture locations: 80% for interior; 0% for exterior and garage"
00596	**08/08/2016**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Clarification**	**Lighting, Appliances, & Internal Gains - % qualifying lighting**
				Issue: Partners have asked if the percent of qualifying lighting specified in this Section refers to interior, outdoor, or garage lighting.
				Resolution: To clarify that the percent of qualifying lighting in this Section is intended to refer to the interior lighting, the lighting portion of this Section will be revised as follows: "Lighting: Fraction of qualifying fixtures to all fixtures in qualifying light fixture locations: 80% for interior; 0% for exterior and garage"

00733	**09/01/2018**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Clarification**	**Exhibit 2 - Lighting, Appliances, & Internal Gains – Dishwasher place setting capacity**
				Issue: Partners have noted that the dishwasher specified in this Section omits a value for dishwasher place setting capacity. This input is required to determine the consumption of the dishwasher, so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify that the dishwasher place setting capacity shall be set equal to the rated home, the dishwasher portion of this Section will be revised as follows: "Dishwasher: 0.66 EF, Place Setting Capacity Same as Rated Home"
00734	**09/01/2018**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Clarification**	**Exhibit 2 – Clothes washer and dryer configured with same efficiency as Energy Rating Reference Home**
				Issue: Partners have asked for clarification on how the clothes washer and dryer should be configured in the ENERGY STAR Reference Design Home. Currently, no guidance is provided specific to these appliances, yet a footnote states that, "Any parameter not specified in this exhibit shall be set to 'Same as Rated Home'". Therefore, partners have asked whether these appliances should be configured to align with the rated home or with the Energy Rating Reference Home.
				Resolution: The clothes washer and dryer in the ENERGY STAR Reference Design Home will be specified to be the same efficiency as the Energy Rating Reference Home. The Lighting, Appliances & Internal Gains section of Exhibit 2, Expanded ENERGY STAR Reference Design Definition, will be updated to reflect this by including a new cell with the following language: "Clothes Washer and Dryer: Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" A new Footnote will also be added to this cell to clarify that, "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter." Configuring the clothes washer and dryer in the ENERGY STAR Reference Design Home with the same efficiency as the Energy Rating Reference Home will give partners credit towards their ENERGY STAR HERS Index Target when using more efficient clothes washers and dryers. Furthermore, it will maintain the current stringency of the program requirements.
00597	**08/08/2016**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Clarification**	**Footnote 10 – Updated reference to RESNET standard**
				Issue: Policy Record Entry 00730 contains the most recent resolution of this issue. This issue (ID 00597) is only being retained to maintain a complete Policy Record. The Footnote that contains the reference to RESNET's standard for configuring the HERS Reference Home is outdated now that ANSI/RESNET/ICC Standard 301-2014 has been published. Standard 301, the "Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index", is the ANSI

				standard that supersedes RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard.
				Resolution: Policy Record Entry 00730 contains the most recent resolution of this issue. This issue (ID 00597) is only being retained to maintain a complete Policy Record. To clarify how certain parameters of the ENERGY STAR Reference Design should be configured, references to RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard will be replaced with a reference to ANSI/RESNET/ICC Standard 301-2014, as follows: "RESNET requires that all RESNET-accredited Home Energy Rating software programs automatically configure this parameter per ANSI / RESNET / ICC Standard 301-2014 when calculating a HERS index value."
00735	**09/01/2018**	**HERS Index Target Procedure for The State of Florida (Version 3.1, Rev. 06)**	**Refinement**	**Footnote 9 - Alignment of window area terminology with Standard 301**
				Issue: The terminology in Footnote 9, used when calculating the Reference Home's total window area for homes with conditioned basements and attached homes, is not fully aligned with Footnote (b) of Table 4.2.2(1) of ANSI / RESNET / ICC Standard 301-2014.
				Resolution: To align with the terminology used in Standard 301 and prevent potential confusion, Footnote 9 will be revised. The equation will be updated as follows: "AG = 0.15 x CFA x FA x F" The first set of bullet points will be updated as follows: • "AG = Total glazing area • CFA = Total conditioned floor area • FA = (Gross above-grade thermal boundary wall area) / (Gross above-grade thermal boundary wall area + 0.5 x Gross below-grade thermal boundary wall area) • F = 1 - 0.44 x (Gross common wall area) / (Gross above-grade thermal boundary wall area + Gross common wall area)" The second set of bullet points will be updated as follows: • "Thermal boundary wall is any wall that separates Conditioned Space from Unconditioned Space, outdoor environment, or the surrounding soil; • Above-grade thermal boundary wall is any portion of a thermal boundary wall not in contact with soil; • Below-grade thermal boundary wall is any portion of a thermal boundary wall in soil contact; and

				• Common wall is the total wall area of walls adjacent to another conditioned living unit, not including foundation walls.”
00736	**09/01/2018**	**Oregon and Washington Program Requirements (Version 3.2, Rev. 08)**	**Change**	**Elimination of plant-certification pathway for modular homes**
				Issue: Currently, there are two paths for modular homes to earn ENERGY STAR certification: • A Rater-verification path, where a Rater is responsible for verifying all program requirements. This may require the Rater to complete inspections in the plant for features that are concealed prior to shipment, as well as complete inspections on-site. • A plant-certification path, where a Quality Assurance Provider (QAP) certifies that the plant has processes in place to consistently incorporate ENERGY STAR requirements into their production. In this path, the plant is responsible for the verification of some items, while a Rater is responsible for completing the verification process on-site. The existence of two pathways increases the complexity of the program. Furthermore, in the case of the plant-certification path, the division of verification responsibilities between two different parties has occasionally created confusion. EPA evaluated the use of the plant-certification path by partners, and found that only 36 homes were certified by three plants using this path in 2016. Upon conducting outreach with these three partners, none felt strongly about maintaining this path.
				Resolution: The plant-certification path for modular homes will be eliminated because it is not frequently utilized and may be causing confusion among partners. To further clarify the remaining certification process for modular homes, the Eligibility Requirements section will be updated to explicitly encompass modular homes and the ENERGY STAR Certification Process section will be updated to indicate that a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, the Version of the program requirements applicable to a modular home, which is currently based upon the home’s “sale date”, will be changed to be based upon the “permit date”, to align with the policy for other site-built homes. To reflect these changes, the first line of the “Eligibility Requirements” section will be revised as follows: “The following site-built or modular homes are eligible to earn the ENERGY STAR:” The following sentence will be added to Step 4 of the ENERGY STAR Certification Process section: “For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment.”

				And a new Footnote, Footnote 1, will be added that reads as follows: "A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre–built sections are transported to the building site and constructed by a builder to meet all applicable building codes for site–built homes."
00737	**09/01/2018**	**Oregon and Washington Program Requirements (Version 3.2, Rev. 08)**	**Clarification**	**Explicit requirement for homes to be registered and receive rating**
				Issue: While implied, there is currently no language in the ENERGY STAR Certification Process section that explicitly requires partners to register homes with an EPA-approved Verification Oversight Organization (VOO) such as RESNET. This step is critical to ensure that the home is encompassed by the quality assurance protocols defined by that VOO.
				Resolution: In order to ensure that ENERGY STAR certified homes are encompassed by a VOO's quality assurance protocols, ENERGY STAR Certified Homes will be explicitly required to receive a rating and be registered with an EPA-approved VOO. The first paragraph under Step 4 of the ENERGY STAR Certification Process will be updated as follows: "4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the on-site inspection procedures for minimum rated features of an EPA-Approved VOO. Finally, register the rated home with the same EPA-Approved VOO. The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report."
00738	**09/01/2018**	**Oregon and Washington Program Requirements (Version 3.2, Rev. 08)**	**Refinement**	**Exhibit 1 - ENERGY STAR certified products specification versions**
				Issue: Partners have noted the efficiency levels of ENERGY STAR certified products in Exhibit 1: ENERGY STAR Reference Design Home may not always align with the efficiency levels in the most recent specification of an ENERGY STAR certified product. They have asked why this is the case and whether revisions to ENERGY STAR product specifications impact the program requirements.
				Resolution: Efficiency levels of products described as "ENERGY STAR" in the Reference Design Home aligned with the specifications for the ENERGY STAR certified product when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. This clarification will be reflected in a new Footnote to Exhibit 1: ENERGY STAR Reference Design Home as follows: "Note that the efficiency levels of ENERGY STAR certified products aligned with these product specifications when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR

				certified product specifications. EPA recommends, but does not require, that current ENERGY STAR products be included in ENERGY STAR homes. For current ENERGY STAR products, visit www.energystar.gov/products."
00771	**09/01/2018**	**Oregon and Washington Program Requirements (Version 3.2, Rev. 08)**	**Refinement**	**Exhibit 1 - References updated to latest RESNET standard**
				Issue: This document contains numerous references to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current references are outdated.
				Resolution: References to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edits will be made: • In the Envelope, Window, & Doors Section: "Insulation levels modeled at levels below and Grade I installation per ANSI / RESNET / ICC Standard 301" • In the Lighting & Appliances Section: "ENERGY STAR light bulbs modeled in 90% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations." In addition, where a specific version of Standard 301 is not specified, a new Footnote will be added as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings is used to model this parameter. "
00739	**09/01/2018**	**Oregon and Washington Program Requirements (Version 3.2, Rev. 08)**	**Refinement**	**Effective Date Section – Revised structure and format of Implementation Timeline**
				Issue: The Effective Date Section varies in structure across program requirements, creating potential confusion. In addition, the implementation timeline information contained within the Exhibit in this Section does not consistently document prior and future Versions of the program, and does not currently incorporate the implementation timelines of both Versions and Revisions.
				Resolution: To help ensure partners are aware of the implementation timeline(s) applicable to the homes that they certify, the Effective Date section will be revised to make the overall structure consistent. Furthermore, the Exhibit containing the implementation timelines will be revised to include the Version(s) and Revision(s) that was applicable for the two years prior to the date of publication, as well as all future Versions and Revisions that are applicable to each location. With this refinement to the Exhibit, the first sentence of Footnote 8 will be removed as the revised Implementation Timeline contains this information. These refinements will be reflected as follows: **Effective Date**

To determine the program Version and Revision that a home is required to be certified under, look up the location and permit date of the home in Exhibit 3. Program requirements for other locations can be found at www.energystar.gov/newhomesrequirements.

This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.

Exhibit 3: ENERGY STAR Certified Homes Implementation Timeline for Oregon and Washington

State / Territory	Homes Permitted On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision
WA	07-01-2016	National v3.1	Rev. 08
	07-01-2018	Oregon and Washington v3.2	Rev. 08
	01-01-2019	Oregon and Washington v3.2	Rev. 09
OR	07-01-2016	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09
	04-01-2019	Oregon and Washington v3.2	Rev. 09

00785	**09/01/2018**	**Oregon and Washington Program Requirements (Version 3.2, Rev. 08)**	**Change**	**Exhibit 3 - Continued Use of Rev. 08 HVAC Design Report** **Issue:** Partners have noted that the HVAC Design Report is only required to be collected once per system design, even if multiple homes are built using this design. Due to the effort required to collect the HVAC Design Report, they have asked whether previously collected Rev. 08 documentation can continue to be used after the release of the next Revision of the program requirements, so long as no aspect of the system design changes. **Resolution:** Because the next Revision of the HVAC Design Report will not require collection of any additional information or impose any new requirements, and will maintain or increase compliance tolerances, a design documented using Rev. 08 of the HVAC Design Report would, by definition, meet the requirements of the next Revision. Therefore, previously collected Rev. 08 HVAC Design Reports will be permitted to be used after the release of the next Revision of the program requirements, so long as the no aspect of the system design changes. To reflect

				this change, a new Footnote will be added to Exhibit 3, as follows: "Homes certified under Rev. 09 of the program requirements are permitted to use either Rev. 08 or 09 of the National HVAC Design Report."
00676	**06/29/2018**	**HERS Index Target Procedure for the States of Oregon and Washington (Version 3.2, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to "Oregon and Washington HERS Index Target Procedure (Version 3.2, Rev. 08)". Additionally, any references to this document in other program documents will be updated to use the updated title.
00740	**09/01/2018**	**HERS Index Target Procedure for the States of Oregon and Washington (Version 3.2, Rev. 08)**	**Clarification**	**References updated to latest RESNET standard and various parameters clarified**
				Issue: This document contains numerous references to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Hence, the current references are outdated. In addition, several parameters require clarification as to how they should be configured in the ENERGY STAR Reference Design Home.
				Resolution: References to "RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard" will be updated to the ANSI-standard version. In addition, references to specific sections of the standard will be replaced with more general references to prevent outdated references as the standard continues to be revised. Finally, the configuration of Service Water Heating Systems and Internal Gains will be clarified. To reflect these clarifications, the following edits will be made: • <u>In the Glazing: Interior Shade Coefficient Section</u>: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" • <u>In the Service Water Heating Systems: Use (Gallons per Day) Section</u>: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for reduced usage resulting from low-flow plumbing fixtures, R-3 pipe insulation, and the dishwasher specified in the Lighting, Appliances, & Internal Gains Section." In addition, this will be associated with a new Footnote as follows: "That is to say, representative of reference clothes washer gallons per day, standard distribution system water use effectiveness, a hot water piping ratio of 1.0, and no drainwater heat recovery." Furthermore, the existing row stating "Distribution System Type: Standard, without recirculation" will be deleted because this new footnote will be a better explanation of how the ENERGY STAR Reference Design Home should be configured.

				• Service Water Heating Systems: Tank Temperature Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301". • Thermostat: Temperature Setpoints Section: "Same as Energy Rating Reference Home, but with offsets for a programmable thermostat, as defined by ANSI / RESNET / ICC Std. 301" • Lighting, Appliances, & Internal Gains: Internal Gains Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for adjustments for the lighting, refrigerator, dishwasher, and ceiling fans specified in this Section." • Internal Mass Section: "Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301". • In addition to these edits, a new Footnote will be associated with all parameters included above and will replace Footnote 7, as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter."
00741	**09/01/2018**	**HERS Index Target Procedure for the States of Oregon and Washington (Version 3.2, Rev. 08)**	**Change**	**Exhibit 1 - Heating Systems and Cooling Systems – Equipment capacity and EAE**
				Issue: Partners have asked EPA about two attributes of heating and cooling equipment in the ENERGY STAR Reference Design Home. The first is about the acceptable methodologies for selecting the capacity of the heating and cooling equipment. Partners have noted that ANSI / RESNET / ICC Std. 301 has refined language regarding this process. More importantly, Std. 301 does not allow the equipment capacity of the rated home to be used for the Energy Rating Reference Home. This option was included for the ENERGY STAR Reference Design Home when ENERGY STAR Version 3 was first drafted to ease the burden for ERI software programs. However, it appears that none of the software providers are using this option. The second attribute is the Electric Auxiliary Energy (EAE) of non-electric warm furnaces and non-electric boilers. This attribute is not specified, yet can potentially have a significant impact on the efficiency of the home so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify the configuration of these two attributes, the Heating Systems and Cooling Systems Sections will be revised as follows: In the Heating Systems Section, the first row will be revised as follows: "Heating capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure".

				In the Heating Systems Section, a new row will be added at the bottom of this section with the following language: “For non-electric warm furnaces and non-electric boilers, the Electric Auxiliary Energy shall be determined in accordance with the methodology for the Energy Rating Reference Home in ANSI / RESNET / ICC Std. 301, using the capacity determined in this Section”. This will be associated with a new Footnote as follows: “The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter.” In the Cooling Systems Section, the first row will be revised as follows: “Cooling capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure”.
00742	**09/01/2018**	**HERS Index Target Procedure for the States of Oregon and Washington (Version 3.2, Rev. 08)**	**Clarification**	**Exhibit 1 - Lighting, Appliances, & Internal Gains – Tier I lighting**
				Issue: Partners have asked if the lighting specified in this Section refers to Tier I or Tier II lighting.
				Resolution: To clarify that the lighting in this Section is intended to refer to Tier I lighting, the lighting portion of this Section will be revised as follows: “Lighting: Fraction of qualifying Tier I fixtures to all fixtures in qualifying light fixture locations: 90% for interior; 0% for exterior and garage”
00743	**09/01/2018**	**HERS Index Target Procedure for the States of Oregon and Washington (Version 3.2, Rev. 08)**	**Clarification**	**Exhibit 1 – Clothes washer and dryer configured with same efficiency as Energy Rating Reference Home**
				Issue: Partners have asked for clarification on how the clothes washer and dryer should be configured in the ENERGY STAR Reference Design Home. Currently, no guidance is provided specific to these appliances, yet a footnote states that, “Any parameter not specified in this exhibit shall be set to ‘Same as Rated Home’”. Therefore, partners have asked whether these appliances should be configured to align with the rated home or with the Energy Rating Reference Home.
				Resolution: The clothes washer and dryer in the ENERGY STAR Reference Design Home will be specified to be the same efficiency as the Energy Rating Reference Home. The Lighting, Appliances & Internal Gains section of Exhibit 1, Expanded ENERGY STAR Reference Design Definition, will be updated to reflect this by including a new cell with the following language: “Clothes Washer and Dryer: Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301” A new Footnote will also be added to this cell to clarify that, “The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter.”

				Configuring the clothes washer and dryer in the ENERGY STAR Reference Design Home with the same efficiency as the Energy Rating Reference Home will give partners credit towards their ENERGY STAR HERS Index Target when using more efficient clothes washers and dryers. Furthermore, it will maintain the current stringency of the program requirements.
00744	**09/01/2018**	**HERS Index Target Procedure for the States of Oregon and Washington (Version 3.2, Rev. 08)**	**Clarification**	**Exhibit 1 - Lighting, Appliances, & Internal Gains – Dishwasher place setting capacity**
				Issue: Partners have noted that the dishwasher specified in this Section omits a value for dishwasher place setting capacity. This input is required to determine the consumption of the dishwasher, so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify that the dishwasher place setting capacity shall be set equal to the rated home, the dishwasher portion of this Section will be revised as follows: "Dishwasher: 0.66 EF, Place Setting Capacity Same as Rated Home"
00745	**09/01/2018**	**HERS Index Target Procedure for the States of Oregon and Washington (Version 3.2, Rev. 08)**	**Refinement**	**Footnote 6 - Alignment of window area terminology with Standard 301**
				Issue: The terminology in Footnote 6, used when calculating the Reference Home's total window area for homes with conditioned basements and attached homes, is not fully aligned with Footnote (b) of Table 4.2.2(1) of ANSI / RESNET / ICC Standard 301-2014.
				Resolution: To align with the terminology used in Standard 301 and prevent potential confusion, Footnote 6 will be revised. The equation will be updated as follows: "AG = 0.15 x CFA x FA x F" The first set of bullet points will be updated as follows: • "AG = Total glazing area • CFA = Total conditioned floor area • FA = (Gross above-grade thermal boundary wall area) / (Gross above-grade thermal boundary wall area + 0.5 x Gross below-grade thermal boundary wall area) • F = 1 - 0.44 x (Gross common wall area) / (Gross above-grade thermal boundary wall area + Gross common wall area)" The second set of bullet points will be updated as follows: • "Thermal boundary wall is any wall that separates Conditioned Space from Unconditioned Space, outdoor environment, or the surrounding soil; • Above-grade thermal boundary wall is any portion of a thermal boundary wall not in contact with soil;

				• Below-grade thermal boundary wall is any portion of a thermal boundary wall in soil contact; and • Common wall is the total wall area of walls adjacent to another conditioned living unit, not including foundation walls.”
00677	**06/29/2018**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to “Tropics Program Requirements (Version 3, Rev. 08)”. Additionally, any references to this document in other program documents will be updated to use the updated title.
00746	**09/01/2018**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Change**	**Elimination of plant-certification pathway for modular homes**
				Issue: Currently, there are two paths for modular homes to earn ENERGY STAR certification: • A Rater-verification path, where a Rater is responsible for verifying all program requirements. This may require the Rater to complete inspections in the plant for features that are concealed prior to shipment, as well as complete inspections on-site. • A plant-certification path, where a Quality Assurance Provider (QAP) certifies that the plant has processes in place to consistently incorporate ENERGY STAR requirements into their production. In this path, the plant is responsible for the verification of some items, while a Rater is responsible for completing the verification process on-site. The existence of two pathways increases the complexity of the program. Furthermore, in the case of the plant-certification path, the division of verification responsibilities between two different parties has occasionally created confusion. EPA evaluated the use of the plant-certification path by partners, and found that only 36 homes were certified by three plants using this path in 2016. Upon conducting outreach with these three partners, none felt strongly about maintaining this path.
				Resolution: The plant-certification path for modular homes will be eliminated because it is not frequently utilized and may be causing confusion among partners. To further clarify the remaining certification process for modular homes, the Eligibility Requirements section will be updated to explicitly encompass modular homes and the ENERGY STAR Certification Process section will be updated to indicate that a Rater must

				verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, the Version of the program requirements applicable to a modular home, which is currently based upon the home's "sale date", will be changed to be based upon the "permit date", to align with the policy for other site-built homes. To reflect these changes, the first line of the "Eligibility Requirements" section will be revised as follows: "The following site-built or modular homes are eligible to earn the ENERGY STAR:" The following sentence will be added to Step 4 of the ENERGY STAR Certification Process section: "For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. And a new Footnote, Footnote 1, will be added that reads as follows: "A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre–built sections are transported to the building site and constructed by a builder to meet all applicable building codes for site–built homes."
00614	**02/23/2017**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Change**	**Eligibility Requirements - Criteria for dwelling units in four and five story buildings**
				Issue: Partners have indicated that the eligibility requirements for dwelling units in four and five story buildings sometimes cause unintended challenges. Currently, dwelling units with their own heating, cooling, and hot water systems are generally required to be certified using the ENERGY STAR certified homes program, while units with shared systems must be certified using the ENERGY STAR Multifamily High-Rise program. Because the requirements are substantially different between the two programs, and the decision to use individual or shared systems is sometimes beyond the control of the design team, including the system type in the eligibility requirements is causing the unintended challenges. Dwelling units with shared systems were initially excluded due to a lack of modeling guidance readily available to ENERGY STAR Raters. With the availability of RESNET's Guidelines for Multifamily Ratings, modeling guidance is now available to address the most common central heating, cooling and hot water systems used in multifamily buildings.
				Resolution: To address the challenges that partners are experiencing with the current eligibility requirements, the criteria related to heating, cooling, and hot water systems will be removed from the national program requirements. The eligibility requirement in the fourth bullet of the Eligibility Requirements section will be revised to state: "Dwelling units in multifamily buildings with 4 or 5 stories above-grade where

				dwelling units occupy 80% or more of the occupiable square footage of the building. When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.” Footnote 4 will be revised to state: “These units may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program. If participating in the Certified Homes Program and the dwelling unit is served by a central heating, cooling, or hot water system, use of the RESNET Guidelines for Multifamily Ratings for modeling the specified central system(s) is recommended.” Footnote 5 will be revised to state: “If permitted prior to July 1, 2012, units in multifamily buildings with 4 or 5 stories above-grade may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program, without assessing whether the 80% threshold has been met.”
00615	**02/23/2017**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Change**	**Determining stories in multifamily buildings with partial floors**
				Issue: Partners have asked whether partial floors in multifamily buildings (e.g., a penthouse, a loft, or a mezzanine) contribute to the total number of stories for the purposes of determining eligibility to participate in the program.
				Resolution: Not all partial floors in multifamily buildings should contribute to the total number of stories for the purposes of determining eligibility to participate in the program. First, consistent with the 2012 IRC, a loft or mezzanine is defined as an intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located. When determining the number of stories of a multifamily building, a partial floor that meets the definition of a loft or mezzanine shall not count as a story. For example, if the lower floor area of a dwelling unit is 100 sq. ft. and a partial second floor is 25 sq. ft., then the partial second floor is 20% of the total floor area of the dwelling unit (25/125 = 20%). Because 20% is less than 33%, the partial second floor is considered a loft or mezzanine and does not count as a story.
00747	**09/01/2018**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Explicit requirement for homes to be registered and receive rating**
				Issue: While implied, there is currently no language in the ENERGY STAR Certification Process section that explicitly requires partners to register homes with an EPA-approved Verification Oversight Organization (VOO) such as RESNET. This step is critical to ensure that the home is encompassed by the quality assurance protocols defined by that VOO.
				Resolution: In order to ensure that ENERGY STAR certified homes are encompassed by a VOO’s quality assurance protocols, ENERGY STAR Certified Homes will be explicitly required

				to receive a rating and be registered with an EPA-approved VOO. The first paragraph under Step 4 of the ENERGY STAR Certification Process will be updated as follows: "4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the on-site inspection procedures for minimum rated features of an EPA-Approved VOO. Finally, register the rated home with the same EPA-Approved VOO. The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report."
00748	**09/01/2018**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Exhibit 1 - ENERGY STAR certified products specification versions**
				Issue: Partners have noted the efficiency levels of ENERGY STAR certified products in Exhibit 1: ENERGY STAR Reference Design Home may not always align with the efficiency levels in the most recent specification of an ENERGY STAR certified product. They have asked why this is the case and whether revisions to ENERGY STAR product specifications impact the program requirements.
				Resolution: Efficiency levels of products described as "ENERGY STAR" in the Reference Design Home aligned with the specifications for the ENERGY STAR certified product when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. This clarification will be reflected in a new Footnote to Exhibit 1: ENERGY STAR Reference Design Home as follows: "Note that the efficiency levels of ENERGY STAR certified products aligned with these product specifications when this Version was first released. These efficiency features form the basis of the ENERGY STAR ERI target, regardless of any subsequent revisions to ENERGY STAR certified product specifications. EPA recommends, but does not require, that current ENERGY STAR products be included in ENERGY STAR homes. For current ENERGY STAR products, visit www.energystar.gov/products."
00772	**09/01/2018**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Exhibit 1 and Footnote 9 - References updated to latest RESNET standard**
				Issue: This document contains numerous references to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current references are outdated.
				Resolution: References to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edits will be made: • In the Envelope, Window, & Doors Section: "Insulation levels modeled to Grade I installation per ANSI / RESNET / ICC Standard 301"

				• In the Lighting & Appliances Section: "ENERGY STAR light bulbs modeled in 80% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations." • Footnote 9: "…A bedroom is defined by ANSI / RESNET / ICC Standard 301-2014 as…" In addition, where a specific version of Standard 301 is not specified, a new Footnote will be added as follows: "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings is used to model this parameter. "
00749	**09/01/2018**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Effective Date Section – Revised structure and format of Implementation Timeline**
				Issue: The Effective Date Section varies in structure across program requirements, creating potential confusion. In addition, the implementation timeline information contained within the Exhibit in this Section does not consistently document prior and future Versions of the program, and does not currently incorporate the implementation timelines of both Versions and Revisions.
				Resolution: To help ensure partners are aware of the implementation timeline(s) applicable to the homes that they certify, the Effective Date section will be revised to make the overall structure consistent. Furthermore, the Exhibit containing the implementation timelines will be revised to include the Version(s) and Revision(s) that was applicable for the two years prior to the date of publication, as well as all future Versions and Revisions that are applicable to each location. With this refinement to the Exhibit, the first sentence of Footnote 11 will be removed as the revised Implementation Timeline contains this information. These refinements will be reflected as follows: **Effective Date** To determine the program Version and Revision that a home is required to be certified under, look up the location and permit date of the home in Exhibit 4. Program requirements for other locations can be found at www.energystar.gov/newhomesrequirements. This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov. **Exhibit 4: ENERGY STAR Certified Homes Implementation Timeline for the Tropics**

State / Territory	Homes Permitted On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision

					HI	07-01-2016	Tropics v3	Rev. 08
						01-01-2019	Tropics v3	Rev. 09
					PR	07-01-2016	Tropics v3	Rev. 08
						01-01-2019	Tropics v3	Rev. 09
					GU	07-01-2016	Tropics v3	Rev. 08
						01-01-2019	Tropics v3	Rev. 09
					NMI, USVI	07-01-2016	Tropics v3	Rev. 08
						01-01-2019	Tropics v3	Rev. 09
00786	**09/01/2018**	**Program Requirements for the Tropics (Version 3, Rev. 08)**	**Change**	**Exhibit 4 - Continued Use of Rev. 08 HVAC Design Report**				
				Issue: Partners have noted that the HVAC Design Report is only required to be collected once per system design, even if multiple homes are built using this design. Due to the effort required to collect the HVAC Design Report, they have asked whether previously collected Rev. 08 documentation can continue to be used after the release of the next Revision of the program requirements, so long as no aspect of the system design changes.				
				Resolution: Because the next Revision of the HVAC Design Report will not require collection of any additional information or impose any new requirements, and will maintain or increase compliance tolerances, a design documented using Rev. 08 of the HVAC Design Report would, by definition, meet the requirements of the next Revision. Therefore, previously collected Rev. 08 HVAC Design Reports will be permitted to be used after the release of the next Revision of the program requirements, so long as the no aspect of the system design changes. To reflect this change, a new Footnote will be added to Exhibit 4, as follows: “Homes certified under Rev. 09 of the program requirements are permitted to use either Rev. 08 or 09 of the National HVAC Design Report.”				
00678	**06/29/2018**	**Rater Design Review Checklist for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**				
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.				
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to “Tropics Rater Design Review Checklist (Version 3, Rev. 08)”.				

				Additionally, any references to this document in other program documents will be updated to use the updated title.
00750	**09/01/2018**	**Rater Design Review Checklist for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Checklist separated into standalone document**
				Issue: Partners have requested that this Checklist be separated from the Rater Field Checklist for the Tropics into its own document to better align with the typical certification workflow and because of the potential confusion that results when the two Checklists are within the same document.
				Resolution: To avoid any confusion between this checklist and the Rater Field Checklist for the Tropics, the Checklists will be separated into their own individual documents. Note this will not change the content of the documents, but may result in minor formatting changes.
00773	**09/01/2018**	**Rater Design Review Checklist for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Item 2.2.1 – Design temperature limits added for US Territories**
				Issue: The Design Temperature Limit Reference Guide was updated to include design temperature limits for US Territories, in addition to the limits already included for counties and states. Currently, Item 2.2.1 only references counties and states.
				Resolution: The reference to 'State and County' in Item 2.2.1 will be updated to read 'State and County, or US Territory' to reflect the inclusion of territories in the Design Temperature Limit Reference Guide.
00679	**06/29/2018**	**Rater Design Review Checklist for the Tropics (Version 3, Rev. 08)**	**Change**	**Item 2.2.3 - Increased Tolerance for Conditioned Floor Area used in HVAC Design Report**
				Issue: Partners have noted an issue with the allowable tolerance between the conditioned floor area used in loads and that of the home to be certified. The allowable tolerance does not permit the conditioned floor area used in the loads to be any smaller than the home to be certified, even when such a deviation will not significantly affect the load. For example, if the designer calculates conditioned floor area by measuring from the interior drywall to interior drywall, while the Rater measures from the exterior to the exterior, the designer will end up with a smaller conditioned floor area, resulting in a failure despite negligible impacts on the load calculation.
				Resolution: The tolerance will be changed to allow the conditioned floor area used in loads to fall between 100 sq. ft smaller and 300 sq. ft. larger than the home to be certified. This change recognizes that if the conditioned floor area used in the loads is slightly smaller than the home to be certified, the overall accuracy of the load will not be greatly compromised. To reflect this change, Item 2.2.3 will be revised to read: "Conditioned floor area used in loads (3.5) is between 100 sq. ft smaller and 300 sq. ft. larger than the home to be certified"

00680	**06/29/2018**	**Rater Design Review Checklist for the Tropics (Version 3, Rev. 08)**	**Change**	**Item 2.2.4 - Increased tolerance for window area used in HVAC Design Report**
				Issue: Partners have noted two issues with the allowable tolerance between the window area used in loads and that of the home to be certified. The first issue is that the low-end tolerance does not permit the window area used in the loads to be any smaller than the home to be certified, even when such a deviation will not significantly affect the load. For example, if the designer calculates the load with even one less sq. ft. of window area than what the home to be certified contains (e.g., due to an imprecise take-off), then the home would not strictly meet the intent of this item. The second issue is that as the window area in the home increases, the fixed tolerances become increasingly restrictive. That is to say, while the high-end tolerance of 60 sq. ft. may be routinely achievable for a typical home, as the window area increases the 60 sq ft. tolerance becomes a smaller percentage of the overall window area. Outreach was conducted with multiple partners in different climate zones. Partners indicated that it would be helpful to increase the low-end tolerance to allow the window area used in the loads to be slightly smaller than the home to be certified. Partners also indicated that adding a percent-based tolerance would be helpful to address the second issue.
				Resolution: The tolerance will be changed to allow the window area used in loads to fall between 15 sq. ft. smaller and 60 sq. ft. larger than the home to be certified. This change recognizes that if the window area used in the load calculations is slightly smaller than the home to be certified, the overall accuracy of the load will not be greatly compromised. Additionally, for homes to be certified with greater than 500 sq. ft. of window area, the tolerances will be changed to use a percentage of window area. To reflect this change, Item 2.2.4 will be revised to read: "Window area used in loads (3.6) is between 15 sq. ft. smaller and 60 sq. ft. larger than the home to be certified, or, for homes to be certified with > 500 sq. ft. of window area, between 3% smaller and 12% larger"
00774	**09/01/2018**	**Rater Design Review Checklist for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Footnote 5 - References updated to latest RESNET standard**
				Issue: This document contains a reference to the "RESNET Standard". In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Therefore, the current reference is outdated.
				Resolution: The reference to the "RESNET Standard" will be updated to the ANSI-standard version. To reflect this change, the following edit will be made: • Footnote 5: "…A bedroom is defined by ANSI / RESNET / ICC Standard 301-2014 as…"

00681	**06/29/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to “Tropics Rater Field Checklist (Version 3, Rev. 08)”. Additionally, any references to this document in other program documents will be updated to use the updated title.
00751	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Checklist separated into standalone document**
				Issue: Partners have requested that this Checklist be separated from the Rater Design Review Checklist for the Tropics into its own document to better align with the typical certification workflow and because of the potential confusion that results when the two Checklists are within the same document.
				Resolution: To avoid any confusion between this checklist and the Rater Design Review Checklist for the Tropics, the Checklists will be separated into their own individual documents. Note this will not change the content of the documents, but may result in minor formatting changes.
00655	**02/07/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Item 2.2 – Other strategies for meeting pressure limit**
				Issue: Partners have asked whether other strategies, not listed in Item 2.2, may be used to meet the intent of this Item.
				Resolution: The strategies listed in Item 2.2 were intended as examples that are commonly used, and were not intended to prohibit the use of other strategies. Any strategy or combination of strategies may be used to meet the Rater-measured pressure limit. This includes strategies not listed in Item 2.2, such as ventilating or louvered doors. To reflect this clarification, Item 2.2 will be revised to read, “Bedrooms pressure-balanced (e.g., using transfer grills, jump ducts, dedicated return ducts, undercut doors) to achieve a Rater-measured pressure differential ≤ 3 Pa with respect to the main body of the house when all bedroom doors are closed and all air handlers are operating. See Footnote 7 for alternative.”
00643	**09/01/2017**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Item 2.2 – Carpet Recommended to be Installed Prior to Bedroom Pressure Test**
				Issue: Raters have asked whether the bedroom pressure-balancing test must be conducted only after any carpeting has been installed.
				Resolution: Testing prior to the installation of carpet may allow additional air to flow beneath the door, resulting in a lower pressure differential (i.e., better result) than after the carpet is installed. However, requiring this test to be completed after the carpet is installed may increase

				the stringency of the program for some partners, as well as create a logistical challenge in some homes (e.g., where the carpet is installed immediately prior to closing). Therefore, EPA recommends, but does not require, that the bedroom pressure-balancing test be conducted after any carpeting has been installed.
00682	**06/29/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Item 2.2 – Low-end limit for bedroom pressure differential, and test configuration**
				Issue: Partners have asked whether the bedroom pressure-balancing limit of 3 Pa (or 5 Pa for bedrooms with a design airflow ≥ 150 CFM) signifies that any value below +3 Pa (or +5 Pa) is allowed or if it signifies that the pressure must fall between -3 Pa and +3 Pa (or -5 Pa and +5 Pa). Additionally, partners have asked whether doors to rooms that can only be entered from the bedroom (e.g., a closet, a bathroom) should be open or closed when verifying this requirement.
				Resolution: To clarify the intent and ensure more consistent enforcement of this Item, EPA will specify that there is a low-end bedroom pressure-balancing limit of -3 Pa (or -5 Pa for bedrooms with a design airflow ≥ 150 CFM), and a high-end limit of +3 Pa (or +5 Pa for bedrooms with a design airflow ≥ 150 CFM). Any measured value between these limits will meet this requirement. While the primary intent of this Item is to ensure an adequate return-air pathway, a secondary intent is to ensure that the return-air pathway is not so large that it significantly depressurizes the bedroom, potentially increasing infiltration. Additionally, EPA will clarify that when verifying this requirement doors separating bedrooms from the main body of the house (e.g., a door between a bedroom and a hallway) shall be closed and doors to rooms that can only be entered from the bedroom (e.g., a closet, a bathroom) shall be open. Specifying this door configuration will prevent airflow from being restricted within this space, while ensuring more consistent results. To clarify this intent, Item 2.2 will be revised as follows: “Bedrooms pressure-balanced (e.g., using transfer grilles, jump ducts, dedicated return ducts, undercut doors) to achieve a Rater-measured pressure differential ≥ -3 Pa and ≤ +3 Pa with respect to the main body of the house when all air handlers are operating. See Footnote 7 for test configuration and an alternative compliance option.” And Footnote 7 will be revised as follows: “Item 2.2 does not apply to ventilation or exhaust ducts. For an HVAC system with a multi-speed fan, the highest design fan speed shall be used when verifying this requirement. When verifying this requirement, doors separating bedrooms from the main body of the house (e.g., a door between a bedroom and a hallway) shall be closed and doors to rooms that can only be entered from the bedroom (e.g., a closet, a bathroom) shall be open. As an alternative to the ± 3 Pa limit, a Rater-measured pressure differential ≥ -5 Pa and ≤ +5 Pa is permitted to be used

				for bedrooms with a design airflow ≥ 150 CFM. The Rater-measured pressure shall be rounded to the nearest whole number to assess compliance.”
00644	**09/01/2017**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Item 2.4 and Footnote 14 - Clarification of Units for Duct Leakage Tolerances**
				Issue: Item 2.4 and Footnote 14 refer both to “CFM” and to “CFM25” when defining duct leakage tolerances. The term “CFM25” is intended to represent airflow measured in cubic feet per minute at a pressure of 25 Pa and is, therefore, applicable to all tolerances. The current use of the term “CFM” in some instances may cause confusion.
				Resolution: All instances of the term “CFM” in Item 2.4 and Footnote 14 will be replaced with “CFM25”.
00645	**09/01/2017**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Change**	**Item 3.2 – In multifamily, override control not required to be readily-accessible**
				Issue: Partners have asked whether, in multi-family dwelling units, the override control required by Item 3.2 must be readily accessible.
				Resolution: The latest edition of the standard that underpins this requirement, ASHRAE 62.2-2016, provides a new exception related to this issue. Section 4.4 of the standard states the following: “A readily accessible manual ON-OFF control, including but not limited to a fan switch or a dedicated branch-circuit overcurrent device, shall be provided. Controls shall include text or an icon indicating the system’s function. Exception: For multifamily dwelling units, the manual ON-OFF control shall not be required to be readily accessible.” Therefore, in multi-family dwelling units, the override control is not required to be readily accessible to the occupant. However, EPA recommends but does not require that the control be readily accessible to others (e.g., building maintenance staff) in lieu of the occupant. This exception is permitted to be used regardless of whether the partner’s intent is to comply with the remainder of the 2010 or 2013 version of the standard. To reflect this change, a new Footnote will be added to Item 3.2, as follows: “In a multi-family dwelling unit, the override control is not required to be readily accessible to the occupant. However, in such cases, EPA recommends but does not require that the control be readily accessible to others (e.g., building maintenance staff) in lieu of the occupant.”
00775	**09/01/2018**	**Rater Field Checklist for the**	**Refinement**	**Item 3.7.2 – Air inlet distance from dryer exhaust**
				Issue: The distance that air inlets must be from dryer exhausts was inadvertently left out of Item 3.7.2 during the transition to Revision 08.

		Tropics (Version 3, Rev. 08)		**Resolution:** To clarify that air inlets must be ≥ 3 ft. from dryer exhausts, Item 3.7.2 will be revised as follows: "Inlet is ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources (e.g., stack, vent, exhaust, vehicles) not exiting the roof, and ≥ 3 ft. distance from dryer exhausts and sources exiting the roof."
00776	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Change**	**Item 4.1 - Alternative kitchen exhaust rate for Passive House (PHI)**
				Issue: Several partners have requested that the alternative kitchen exhaust flow rate provided in Footnote 23 of Item 4.1 for homes certified by the Passive House Institute US (PHIUS+) be extended to homes certified by the Passive House Institute (PHI). Because homes certified under both organizations have mandatory infiltration limits that are extremely low, builders of these homes often use a continuously running balanced ventilation system to meet local mechanical exhaust requirements for kitchens. In such homes, partners have expressed difficulty complying with the ENERGY STAR program's requirements to meet the ASHRAE 62.2 local mechanical exhaust flow rate of 5 kitchen air changes per hour for continuously running fans.
				Resolution: To avoid discouraging participation in the ENERGY STAR certified homes program of these highly efficient homes, the alternative will be extended to Passive House Institute (PHI) homes. This alternative will remain in effect while DOE works to develop an ASRHAE 62.2-complaint solution optimized for very low-load homes. Footnote 23 will be modified to reference PHI certified homes in addition to PHIUS+ homes as follows: "As an alternative to Item 4.1, homes that are PHIUS+ or PHI certified are permitted to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3."
00777	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Change**	**Item 4.1 and Footnote 23 – Alternative kitchen exhaust rate for select homes**
				Issue: Partners developing homes with extremely tight enclosures and balanced whole-house ventilation and local mechanical exhaust systems have expressed difficultly meeting the requirements of ASHRAE 62.2-2013 for local mechanical kitchen exhaust. The extremely tight enclosure, as tight as a PHIUS+ home, makes it difficult to use an exhaust-only system without pressure relief. Furthermore, balanced ventilation systems often don't have the ability to boost the local exhaust rate to the levels required by ASHRAE 62.2-2013. These constraints are analogous to those of a PHIUS+ or PHI certified home, for which an allowance is already provided to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3.
				Resolution: The current allowance to use a continuous kitchen exhaust rate of 25 CFM for PHIUS+ or PHI certified homes will be extended to homes that meet an equivalent infiltration limit and provide both whole-house ventilation and local mechanical kitchen exhaust using a

				balanced system. To reflect this change, the last sentence of Footnote 23 will be revised as follows: "As an alternative to Item 4.1, homes are permitted to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3, if they are either a) PHIUS+ or PHI certified, or b) provide both whole-house ventilation and local mechanical kitchen exhaust using a balanced system, and have a Rater-verified whole-building infiltration rate ≤ 0.05 CFM50 per sq. ft. of Enclosure Area, and a Rater-verified dwelling unit compartmentalization rate ≤ 0.30 CFM50 per sq. ft. of Enclosure Area if multiple dwelling units are present in the building. 'Enclosure Area' is defined as the area of the surfaces that bound the volume being pressurized / depressurized during the test."
00752	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Item 6.3 and Footnote 29 - Updating Combustion Safety Testing RESNET Reference**
				Issue: Item 6.3 and Footnote 29 reference 'Section 805' of RESNET's Standards for testing of unvented combustion appliances. RESNET has updated the section number for these tests to '802'.
				Resolution: To correctly refer to the new section number, Item 6.3 will be revised as follows: "If unvented combustion appliances other than cooking ranges or ovens are located inside the home's pressure boundary, the Rater has followed Section 802 of RESNET's Standards, encompassing ANSI/ACCA 12 QH-2014, Appendix A, Section A3 (Carbon Monoxide Test), and verified the equipment meets the limits defined within." Similarly, Footnote 29 will be revised as follows: "Naturally drafted equipment is allowed within the home's pressure boundary in Climate Zones 1-3 if the Rater has followed Section 802 of RESNET's Standards, encompassing ANSI/ACCA 12 QH-2014, Appendix A, Sections A3 (Carbon Monoxide Test) and A4 (Depressurization Test for the Combustion Appliance Zone), and verified that the equipment meets the limits defined within."
00683	**06/29/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Item 5.1 – MERV 6 filters not mandatory for ERV / HRV systems**
				Issue: Partners have asked whether the requirements for a MERV 6 filter apply to ERV and HRV systems that have 10 ft. or more of ductwork. While these systems typically include a filter, they're often not MERV-rated and MERV-rated filters for these systems are not readily available.
				Resolution: Because it is difficult to obtain MERV-rated filters for ERV's and HRV's, and because both ASHRAE Standard 62.2-2010 and its user guide lack any definitive guidance regarding ERV's and HRV's, Footnote 25 will be modified to clarify that such systems are exempted from Item 5.1.

				To reflect this clarification, Footnote 25 of Rater-F will be revised to state: "Per ASHRAE 62.2-2010, ducted mechanical systems are those that supply air to an occupiable space through ductwork exceeding 10 ft. in length and through a thermal conditioning component, except for evaporative coolers. Systems that do not meet this definition are exempt from this requirement. While filters are recommended for mini-split systems, HRV's, and ERV's, these systems typically do not have MERV-rated filters available for use and are, therefore, also exempted under this version of the requirements. HVAC filters located in the attic shall be considered accessible to the owner if drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter."
00753	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Change**	**Reference** added to **2016 version of ASHRAE 62.2 alongside 2010 and 2013 versions**
				Issue: Partners have asked if they are permitted to use the 2016 version of ASHRAE 62.2, in addition to the 2010 and 2013 versions, and published addenda.
				Resolution: Because of the significant differences to the ASHRAE 62.2 standard that can occur due to the release of new addenda and new versions, it will be clarified that partners are permitted to, but are not required to, use the latest version (i.e., ASHRAE 62.2-2016) of the standard. To reflect this change, the document will be updated as follows: • Footnote 1 will be revised to say that the Checklist is "…designed to meet the requirements of ASHRAE 62.2-2010 / 2013 / 2016...". • Footnote 23 will be revised to say that "...the prescriptive duct sizing requirements in Table 5.3 of ASHRAE 62.2-2010 / 2013 / 2016 are permitted to be used...". All remaining references to "ASHRAE 62.2-2010" are simply definitions and will remain unchanged.
00778	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Change**	**Footnotes 9 and 15 - Updated references to Standard 380**
				Issue: Footnotes 9 and 15 refer to generic RESNET-approved test protocols and to test instruments to be used for duct leakage testing and ventilation airflow testing until the publication of ANSI / RESNET / ICC Standard 380. Now that the standard has been published, updating the Footnotes with a reference to Standard 380 will direct Raters to the appropriate test protocols, reduce potential confusion, and ensure that tests are being done consistent with the industry standard.
				Resolution: To direct Raters to the appropriate test protocols, reduce potential confusion, and ensure that tests are being done consistent with the industry standard, Footnotes 9 and 15 will be updated to refer to ANSI / RESNET / ICC Standard 380.

				To reflect this change, Footnote 9 will be revised as follows: "Items 2.4 and 2.5 only apply to heating, cooling, and balanced ventilation ducts. Duct leakage shall be determined and documented by a Rater using the same version of ANSI / RESNET / ICC Std. 380 that is utilized by RESNET for HERS ratings. Leakage limits shall be assessed on a per-system, rather than per-home, basis. For balanced ventilation ducts that are not connected to space heating or cooling systems, a Rater is permitted to visually verify, in lieu of duct leakage testing, that all seams and connections are sealed with mastic or metal tape and all duct boots are sealed to floor, wall, or ceiling using caulk, foam, or mastic tape." Footnote 15 will be revised as follows: "The whole-house ventilation air flow and local exhaust air flows shall be determined and documented by a Rater using the same version of ANSI / RESNET / ICC Std. 380 that is utilized by RESNET for HERS ratings."
00779	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Footnote 22 - Updated kitchen volume definition and minimum kitchen exhaust rate**
				Issue: The definition of "kitchen volume" in Footnote 22 implies, but does not explicitly state, that it must encompass the kitchen exhaust fan and range / oven. On rare occasions, this could result in situations where these components are outside the kitchen volume, reducing the effectiveness of the local mechanical exhaust system. Additionally, when using kitchen volume to determine the required exhaust rate, there is currently no minimum absolute exhaust rate specified. As a result, for very small kitchen volumes (i.e., < 300 cu. ft.), the resulting minimum exhaust rate falls below 25 CFM, the minimum rate specified in Table M1507.3 of the 2009 IRC.
				Resolution: To ensure that kitchen local mechanical exhaust meets the program's intent, and to ensure that it does not drop below the requirements of the 2009 IRC, Footnote 22 will be revised to require inclusion of the kitchen exhaust fan and range / oven within the definition of "kitchen volume" and a minimum absolute kitchen exhaust rate will be added. Footnote 22 will be revised as follows: "Kitchen volume shall be determined by drawing the smallest possible rectangle on the floor plan that encompasses all cabinets, pantries, islands, peninsulas, ranges / ovens, and the kitchen exhaust fan, and multiplying by the average ceiling height for this area. In addition, the continuous kitchen exhaust rate shall be ≥ 25 CFM, per 2009 IRC Table M1507.3, regardless of the rate calculated using the kitchen volume. Cabinet volume shall be included in the kitchen volume."
00646	**09/01/2017**	**Rater Field Checklist for the**	**Change**	**Footnote 25 – Alternative compliance option for filter access in attics**
				Issue: Partners have expressed difficulty meeting the filter access requirement in certain homes where the HVAC equipment is located in the attic, such as when space constraints

		Tropics (Version 3, Rev. 08)		preclude the use of drop-down stairs and the filter cannot be located at the return grille (e.g., due to linear returns or the use of high-MERV filters).
				Resolution: To address this challenge, an alternative compliance option will be added that permits the filter to be located such that it enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft. This option will be added to Footnote 25 as follows: "…HVAC filters located in the attic shall be considered accessible to the owner if either: 1) drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter or 2) the filter location enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft."
00754	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Footnote 25 – Filters recommended, not required, for ducted *and* ductless mini-splits**
				Issue: Partners have asked if both ducted and ductless mini-splits are exempt from the filter requirements of Item 5.1 per Footnote 25.
				Resolution: Consistent with Policy Record Entry 00652, which clarifies that the program's definition of mini-split / multi-split air conditioners and heat pumps is not dependent on duct length, both ducted and ductless systems are recommended but not required to meet the filter requirements of Item 5.1, Footnote 25 will be modified as follows: "Based upon ASHRAE 62.2-2010, ducted mechanical systems are those that supply air to an occupiable space with a total amount of supply ductwork exceeding 10 ft. in length and through a thermal conditioning component, except for evaporative coolers. Systems that do not meet this definition are exempt from this requirement. While filters are recommended for mini-split systems, HRV's and ERV's, these systems, ducted or not, typically do not have MERV-rated filters available for use and are, therefore, also exempted under this version of the requirements. HVAC filters located in the attic shall be considered accessible to the owner if either 1) drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter or 2) the filter location enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft."
00755	**09/01/2018**	**Rater Field Checklist for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Footnote 25 – Definition of ducted mechanical system dependent on <u>total</u> supply duct length**
				Issue: Partners have asked for clarification of the ductwork length in the program's definition of a ducted mechanical system, which is based on ASHRAE 62.2-2010. Specifically, they have asked if the criteria for "ductwork exceeding 10 ft. in length" refers to the longest single supply duct run of the system or the total length of all supply ductwork in the system.

				Resolution: To clarify that the program's definition of a ducted mechanical system is dependent on whether the total length of all supply ductwork exceeds 10 ft., Footnote 25 will be modified as follows: "Based upon ASHRAE 62.2-2010, ducted mechanical systems are those that supply air to an occupiable space with a total amount of supply ductwork exceeding 10 ft. in length and through a thermal conditioning component, except for evaporative coolers. Systems that do not meet this definition are exempt from this requirement. While filters are recommended for mini-split systems, HRV's and ERV's, these systems, ducted or not, typically do not have MERV-rated filters available for use and are, therefore, also exempted under this version of the requirements. HVAC filters located in the attic shall be considered accessible to the owner if either 1) drop-down stairs provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter or 2) the filter location enables arm-length access from a portable ladder without the need to step into the attic and the ceiling height where access is provided is ≤ 12 ft."
00756	**09/01/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Updating document title for consistent naming format**
				Issue: Partners have noted that there is inconsistency between titles for various program documents, which may cause confusion.
				Resolution: To avoid potential confusion, and use a consistent naming format, the title of this document will be updated to "Tropics HERS Index Target Procedure (Version 3, Rev. 08)". Additionally, any references to this document in other program documents will be updated to use the updated title.
00684	**06/29/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Removal of steps for manual calculation of HERS Index Target**
				Issue: Archive Policy Record entry 00303 states that "the process of determining the ENERGY STAR HERS Index Target must be completed using a RESNET-accredited rating software program, and is no longer permitted to be completed manually". However, guidance for manual configuration of the HERS Index Target is still provided in this document. Furthermore, there are serval minor differences between this document and the Version 3.1 ENERGY STAR HERS Index Target Procedure.
				Resolution: In order to remove any ambiguity regarding the requirement of determining the HERS Index Target using a RESNET-accredited rating software program and to align with the Version 3.1 ENERGY STAR HERS Index Target Procedure, the following edits will be made: • The word 'detailed' will be removed from the first sentence of the document. • The word 'numerical' will be added before the phrase "HERS Index value

				• The phrase “a home can achieve and be certified” will be replaced with “each rated home may achieve to earn the ENERGY STAR” in the first sentence of the document. • The second sentence of the document which reads “The Certification Process provides flexibility to select a custom combination of measures through energy modeling that achieves the required ENERGY STAR HERS Index Target” will be removed. • The third sentence of the document will be refined and will read: “Note that, in addition to meeting the ENERGY STAR HERS Index Target, homes shall also meet all Mandatory Requirements for All Certified Homes in Exhibit 2 of the Tropics Program Requirements for ENERGY STAR Certified Homes, Version 3.” • The second paragraph, which introduces the steps for calculating the ENERGY STAR HERS Index Target, will be refined as follows: “A RESNET-accredited Home Energy Rating software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home using the following procedure:” • The first two sentences of step 1 will be reworded and condensed as follows: “The software shall configure the ENERGY STAR Reference Design Home in accordance with Exhibit 2, The Expanded ENERGY STAR Reference Design Definition for the Tropics, and calculate its associated numerical HERS index value.” The remaining language will be removed from Step 1. • The phrase “the software shall” will be inserted before all three instances of the word “calculate” in steps 2 and 3. • Step 4 will be removed.
00757	**09/01/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Clarification**	**References updated to latest RESNET standard and various parameters clarified**
				Issue: This document contains numerous references to “RESNET’s 2006 Mortgage Industry National Home Energy Rating Systems Standard”. In the time since this document was drafted, RESNET has created an ANSI standard version entitled ANSI / RESNET / ICC Standard 301. Hence, the current references are outdated. In addition, several parameters require clarification as to how they should be configured in the ENERGY STAR Reference Design Home.
				Resolution: References to “RESNET’s 2006 Mortgage Industry National Home Energy Rating Systems Standard” will be updated to the ANSI-standard version. In addition, references to specific sections of the standard will be replaced with more general references to prevent outdated references as the standard continues to be revised. Finally, the configuration of Service Water Heating Systems and Internal Gains will be clarified. To reflect these clarifications, the following edits will be made:

				• In Step 2: The first sentence after the equation will read as follows: “For the purposes of this step, the software shall calculate the number of bedrooms and the CFA of the home to be built in accordance with the definitions in ANSI / RESNET / ICC Std. 301 with the following exception...” • In the Glazing: Interior Shade Coefficient Section: “Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301” • In the Service Water Heating Systems: Use (Gallons per Day) Section: “Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for reduced usage resulting from the dishwasher specified in the Lighting, Appliances, & Internal Gains Section.” In addition, this will be associated with a new Footnote as follows: “That is to say, representative of standard-flow plumbing fixtures, reference clothes washer gallons per day, standard distribution system water use effectiveness, a hot water piping ratio of 1.0, no pipe insulation, and no drainwater heat recovery.” • Service Water Heating Systems: Tank Temperature Section: “Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301”. • Thermostat: Temperature Setpoints Section: “Same as Energy Rating Reference Home, but with offsets for a programmable thermostat, as defined by ANSI / RESNET / ICC Std. 301” • Lighting, Appliances, & Internal Gains: Internal Gains Section: “Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301, except for adjustments for the lighting, refrigerator, dishwasher, and ceiling fans specified in this Section.” • Internal Mass Section: “Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301”. • Footnote 1: The final sentence will read as follows: “The full conditioned floor area should be used when rating the home (e.g., determining compliance with duct leakage requirements).” • Footnote 2: The second sentence will read as follows: “A bedroom is defined by ANSI / RESNET / ICC Std. 301-2014 as a room or space 70 sq. ft. or greater size, with egress window and closet, used or intended to be used for sleeping.” • Footnote 10: This Footnote contained the reference to the outdated version of the RESNET standard and will be deleted. • In addition to these edits, a new Footnote will be associated with Step 2 and all parameters included above, as follows: “The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter.”

00758	**09/01/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Change**	**Exhibit 2 - Heating Systems and Cooling Systems – Equipment capacity and EAE**
				Issue: Partners have asked EPA about two attributes of heating and cooling equipment in the ENERGY STAR Reference Design Home. The first is about the acceptable methodologies for selecting the capacity of the heating and cooling equipment. Partners have noted that ANSI / RESNET / ICC Std. 301 has refined language regarding this process. More importantly, Std. 301 does not allow the equipment capacity of the rated home to be used for the Energy Rating Reference Home. This option was included for the ENERGY STAR Reference Design Home when ENERGY STAR Version 3 was first drafted to ease the burden for ERI software programs. However, it appears that none of the software providers are using this option. The second attribute is the Electric Auxiliary Energy (EAE) of non-electric warm furnaces and non-electric boilers. This attribute is not specified, yet can potentially have a significant impact on the efficiency of the home so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify the configuration of these two attributes, the Heating Systems and Cooling Systems Sections will be revised as follows: In the Heating Systems Section, the first row will be revised as follows: “Heating capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure”. In the Heating Systems Section, a new row will be added at the bottom of this section with the following language: “For non-electric warm furnaces and non-electric boilers, the Electric Auxiliary Energy shall be determined in accordance with the methodology for the Energy Rating Reference Home in ANSI / RESNET / ICC Std. 301, using the capacity determined in this Section”. This will be associated with a new Footnote as follows: “The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter.” In the Cooling Systems Section, the first row will be revised as follows: “Cooling capacity shall be selected in accordance with ACCA Manual S based on building heating and cooling loads calculated in accordance with ACCA Manual J, Eighth Edition, ASHRAE Handbook of Fundamentals, or an equivalent computation procedure”.
00598	**08/08/2016**	**HERS Index Target Procedure for the**	**Clarification**	**Exhibit 2 - Service Water Heating Systems**
				Issue: Policy Record Entry 00757 contains the most recent resolution of this issue. This issue (ID 00598) is only being retained to maintain a complete Policy Record.

		Tropics (Version 3, Rev. 08)		Partners have asked whether the ENERGY STAR Reference Design Definition, which currently sets the hot water use equal to that of the HERS Reference Home, should be changed with the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. ANSI/RESNET/ICC 301-2014, Addendum A-2015 defines a new methodology for calculating this value by incorporating features including: efficient clothes washers; efficient dishwashers; low-flow showers and faucets; water inlet, setpoint, and use temperatures; drain water heat recovery systems; pipe length; hot water pipe insulation; and the presence of a recirculation system with various control types. When originally defining the ENERGY STAR HERS Reference Home, such features were not credited. While the recognition of such features now allows partners to use them to improve the HERS index of the rated home, it is unclear whether the ENERGY STAR HERS Reference Home now incorporates any of these features.
				Resolution: Policy Record Entry 00757 contains the most recent resolution of this issue. This issue (ID 00598) is only being retained to maintain a complete Policy Record. So as not to increase the stringency of the ENERGY STAR program in between versions, the hot water use specified in the ENERGY STAR Reference Design Definition will continue to be set equal to HERS Reference Home. Effectively, this means that the ENERGY STAR HERS index target will be no more stringent than before the release of ANSI/RESNET/ICC 301-2014, Addendum A-2015. Furthermore, partners will be free to incorporate water efficiency features into their rated homes to both improve the HERS index target and help meet the ENERGY STAR HERS index target. Because the hot water use of the ENERGY STAR Reference Design Home will continue to align with the HERS Reference Home, no revisions are needed for that attribute. To reinforce that the ENERGY STAR Reference Design Home will not be configured with a recirculation system, the annual pump energy will be set to 0 kWh. To reflect this, a row will be added to the Service Water Heating System of Exhibit 2 that reads: "Recirculation Pump: 0 kWh per year"
00759	**09/01/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Exhibit 2- Lighting, Appliances, & Internal Gains – Tier I lighting**
				Issue: Partners have asked if the lighting specified in this Section refers to Tier I or Tier II lighting.
				Resolution: To clarify that the lighting in this Section is intended to refer to Tier I lighting, the lighting portion of this Section will be revised as follows: "Lighting: Fraction of qualifying Tier I fixtures to all fixtures in qualifying light fixture locations: 80% for interior; 0% for exterior and garage"

00599	**08/08/2016**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Lighting, Appliances, & Internal Gains - % qualifying lighting**
				Issue: Partners have asked if the percent of qualifying lighting specified in this Section refers to interior, outdoor, or garage lighting.
				Resolution: To clarify that the percent of qualifying lighting in this Section is intended to refer to the interior lighting, the lighting portion of this Section will be revised as follows: "Lighting: Fraction of qualifying fixtures to all fixtures in qualifying light fixture locations: 80% for interior; 0% for exterior and garage"
00760	**09/01/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Exhibit 2 - Lighting, Appliances, & Internal Gains – Dishwasher place setting capacity**
				Issue: Partners have noted that the dishwasher specified in this Section omits a value for dishwasher place setting capacity. This input is required to determine the consumption of the dishwasher, so omitting it could lead to inconsistencies in how the ENERGY STAR Reference Design Home is configured.
				Resolution: To clarify that the dishwasher place setting capacity shall be set equal to the rated home, the dishwasher portion of this Section will be revised as follows: "Dishwasher: 0.66 EF, Place Setting Capacity Same as Rated Home"
00761	**09/01/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Exhibit 2 – Clothes washer and dryer configured with same efficiency as Energy Rating Reference Home**
				Issue: Partners have asked for clarification on how the clothes washer and dryer should be configured in the ENERGY STAR Reference Design Home. Currently, no guidance is provided specific to these appliances, yet a footnote states that, "Any parameter not specified in this exhibit shall be set to 'Same as Rated Home'". Therefore, partners have asked whether these appliances should be configured to align with the rated home or with the Energy Rating Reference Home.
				Resolution: The clothes washer and dryer in the ENERGY STAR Reference Design Home will be specified to be the same efficiency as the Energy Rating Reference Home. The Lighting, Appliances & Internal Gains section of Exhibit 2, Expanded ENERGY STAR Reference Design Definition, will be updated to reflect this by including a new cell with the following language: "Clothes Washer and Dryer: Same as Energy Rating Reference Home, as defined by ANSI / RESNET / ICC Std. 301" A new Footnote will also be added to this cell to clarify that, "The version of ANSI / RESNET / ICC Std. 301 utilized by RESNET for HERS ratings shall be used to configure this parameter." Configuring the clothes washer and dryer in the ENERGY STAR Reference Design Home with the same efficiency as the Energy Rating Reference Home will give partners credit towards

				their ENERGY STAR HERS Index Target when using more efficient clothes washers and dryers. Furthermore, it will maintain the current stringency of the program requirements.
00600	**08/08/2016**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Clarification**	**Footnote 10 – Updated reference to RESNET standard**
				Issue: Policy Record Entry 00757 contains the most recent resolution of this issue. This issue (ID 00600) is only being retained to maintain a complete Policy Record. The Footnote that contains the reference to RESNET's standard for configuring the HERS Reference Home is outdated now that ANSI/RESNET/ICC Standard 301-2014 has been published. Standard 301, the "Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index", is the ANSI standard that supersedes RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard.
				Resolution: Policy Record Entry 00757 contains the most recent resolution of this issue. This issue (ID 00600) is only being retained to maintain a complete Policy Record. To clarify how certain parameters of the ENERGY STAR Reference Design should be configured, references to RESNET's 2006 Mortgage Industry National Home Energy Rating Systems Standard will be replaced with a reference to ANSI/RESNET/ICC Standard 301-2014, as follows: "RESNET requires that all RESNET-accredited Home Energy Rating software programs automatically configure this parameter per ANSI/RESNET/ICC Standard 301-2014 when calculating a HERS index value."
00762	**09/01/2018**	**HERS Index Target Procedure for the Tropics (Version 3, Rev. 08)**	**Refinement**	**Footnote 9 - Alignment of window area terminology with Standard 301**
				Issue: The terminology in Footnote 9, used when calculating the Reference Home's total window area for homes with conditioned basements and attached homes, is not fully aligned with Footnote (b) of Table 4.2.2(1) of ANSI / RESNET / ICC Standard 301-2014.
				Resolution: To align with the terminology used in Standard 301 and prevent potential confusion, Footnote 9 will be revised. The equation will be updated as follows: "AG = 0.15 x CFA x FA x F" The first set of bullet points will be updated as follows: • "AG = Total glazing area • CFA = Total conditioned floor area • FA = (Gross above-grade thermal boundary wall area) / (Gross above-grade thermal boundary wall area + 0.5 x Gross below-grade thermal boundary wall area)

				• F = 1 - 0.44 x (Gross common wall area) / (Gross above-grade thermal boundary wall area + Gross common wall area)” The second set of bullet points will be updated as follows: • “Thermal boundary wall is any wall that separates Conditioned Space from Unconditioned Space, outdoor environment, or the surrounding soil; • Above-grade thermal boundary wall is any portion of a thermal boundary wall not in contact with soil; • Below-grade thermal boundary wall is any portion of a thermal boundary wall in soil contact; and • Common wall is the total wall area of walls adjacent to another conditioned living unit, not including foundation walls.”