

## **EPA Responses to Comments on Proposed Merged Multifamily New Construction Specification**

This document contains a summary of comments received during the first comment period for the Merged Multifamily New Construction Specification, which ended December 15, 2017. EPA's response to each point raised and the resulting policy change, if any, are also included. EPA consolidated similar ideas into single comments. This document does not respond to all comments received, but rather gives a summary of the most common feedback topics.

*The Environmental Protection Agency  
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ID	Comment Summary	EPA's Response	EPA's Policy Decision
<i>General</i>			
1	<ul style="list-style-type: none"> <li>• Multiple respondents asked for clarification on how the checklists will be used, whether they will be per unit or per building, and how unit level verification will be recorded.</li> </ul>	<ul style="list-style-type: none"> <li>• EPA agrees that the format and usability of the checklists are important. In addition, EPA agrees that the current approach in both programs can be improved.</li> <li>• EPA is still reviewing feedback related to checklist format, including an Excel option. The current drafts of the checklists are designed with the option to be one checklist per project with an Excel spreadsheet appendix to detail the unit and space specific information.</li> </ul>	<ul style="list-style-type: none"> <li>• Issue still under review.</li> </ul>
2	<ul style="list-style-type: none"> <li>• Multiple respondents appreciated the additional flexibility in the specification with respect to the performance target options and the HVAC contractor credentials.</li> </ul>	<ul style="list-style-type: none"> <li>• EPA has noted these responses.</li> </ul>	<ul style="list-style-type: none"> <li>• No policy change.</li> </ul>
3	<ul style="list-style-type: none"> <li>• Some of the requirements, similar to Certified Homes, present a significant challenge for projects undergoing a gut rehabilitation.</li> </ul>	<ul style="list-style-type: none"> <li>• EPA reaffirms its intent for all projects that earn the ENERGY STAR label to provide the same value to consumers. As such, there may be some items that present a greater challenge for gut rehab projects. The proposed updates continue to include the alternate options for projects undergoing a gut rehabilitation that exist in the Certified Homes program.</li> </ul>	<ul style="list-style-type: none"> <li>• No policy change.</li> </ul>
4	<ul style="list-style-type: none"> <li>• Multiple respondents wanted clarification on what qualifications were required to complete the verification. One respondent wanted to know if other qualifications, such as a BPI Multifamily Building Analyst, would be sufficient to perform the verification. One respondent recommended that the rater be allowed to verify some items on the HVAC checklist. Another respondent recommended that a HERS Rater/RFI be specifically allowed</li> </ul>	<ul style="list-style-type: none"> <li>• EPA agrees that clarity and flexibility is needed in the specific verification roles in the new specification. The Rater Field checklist does include items that the 'Rater' or Builder will verify, but also will allow a few to be verified by the Licensed Professional. Conversely, there are some items on the HVAC Functional Testing checklist that can be verified by the 'Rater'. The Rater Design Checklist footnotes now clarify who qualifies as a 'Rater'.</li> <li>• For projects going through the HERS path, a HERS Rater will be under the oversight of RESNET providers for all</li> </ul>	<ul style="list-style-type: none"> <li>• Additional details on verification roles and qualifications have been included in the checklists and webinar slides.</li> </ul>

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	<p>to perform the verification for the ASHRAE path.</p> <ul style="list-style-type: none"> <li>• Respondents also asked for clarification about the QA process</li> </ul>	<p>checklist items. For projects going through the ASHRAE and Prescriptive Paths, the new (name to be determined) “Multifamily Oversight Organizations” will be responsible for the quality assurance. Raters will be allowed to perform this work subject to the Oversight Organizations requirements and the Oversight Organizations will be able to allow alternate qualifications subject to EPA approval. The HVAC Functional Testing checklist also specifies who is permitted to complete that checklist, which is expanded as compared to the Homes program.</p>	
5	<ul style="list-style-type: none"> <li>• Multiple respondents commented that the references to various codes (e.g., IECC, ASHRAE 62.2, etc.) should be updated to the current years.</li> </ul>	<ul style="list-style-type: none"> <li>• EPA reaffirms the intent of the merged program is to reduce confusion, reduce the differences in program requirements between the single family and multifamily programs for similar buildings, and improve flexibility given the variety of multifamily configurations. With that in mind, EPA is generally not intending with this merge to advance code reference levels beyond the current requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• No policy change.</li> </ul>
6	<ul style="list-style-type: none"> <li>• Multiple respondents commented that it was necessary to clarify the eligibility for townhouse-like properties such as mixed buildings with townhouses and stacked units, or houses that look like a townhome but have a basement apartment. Some commenters stated that it would be beneficial for these configurations to go through the single-family program.</li> </ul>	<ul style="list-style-type: none"> <li>• EPA reaffirms the intent of the merged program is to reduce confusion, reduce the differences in program requirements between the single family and multifamily programs for similar buildings, and improve flexibility given the variety of multifamily configurations.</li> <li>• EPA agrees with respondents that additional flexibility within the eligibility would be ideal. Given that the program requirements are very similar for building types that are similar to single family, EPA has proposed some additional updates to allow additional flexibility within the eligibility structure.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional eligibility flexibility has been proposed. It is available in the recent webinar slides.</li> </ul>

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	<ul style="list-style-type: none"> <li>Multiple respondents asked whether eligibility would be expanded to dorms and assisted living projects.</li> </ul>	<ul style="list-style-type: none"> <li>Given the proposed change in scope for the ANSI 301 standard to include sleeping units, EPA is currently assessing expanding eligibility to these sectors.</li> </ul>	<ul style="list-style-type: none"> <li>Issue under review.</li> </ul>
<i>Modeling (HERS Reference Design, ASHRAE)</i>			
7	<ul style="list-style-type: none"> <li>Multiple respondents had concerns on the ability for a HERS index to be able to handle units in buildings with more than five stories.</li> </ul>	<ul style="list-style-type: none"> <li>RESNET is currently updating ANSI 301, the basis for the HERS index, to be able to accommodate units in building of any heights. These updates are still going through the public comment process.</li> <li>EPA agrees that without this update, HERS indices may not be able to handle units in buildings of all heights. EPA plans to assess the availability of the HERS path if there is a delay between the availability of the new ENERGY STAR specification and the updated ANSI 301 deployment.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
8	<ul style="list-style-type: none"> <li>Multiple respondents stated that in the reference design the furnace efficiency was too low and should be at least a 92 AFUE, not 90 AFUE in CZ 4-5. In addition, respondents commented that the reference design overall was too easy, which would lead to more projects pursuing the Prescriptive Path. Conversely, one respondent stated that 15 SEER systems in warmer climate zones were not prevalent and seemed to have a small impact on the HERS index.</li> </ul>	<ul style="list-style-type: none"> <li>EPA has proposed a minor adjustment, in climate zone 4-5, to focus more on cooling and less on heating given the higher cooling loads in multifamily.</li> <li>For HERS projects in all climate zones, the Reference Design is used to establish the ENERGY STAR HERS Index target which the units in the project must meet or exceed. The Reference Design efficiencies are not requirements, except for Prescriptive Path projects.</li> <li>Based on this clarification, EPA has not updated its proposal; however, EPA plans to rereview the requirements based on any additional feedback submitted in the second comment period. An alternate option would be to switch back to the current Homes reference design for both heating and cooling in CZ 4-5.</li> <li>EPA reaffirms its intent that overall, the merged program mandatory items do not increase the stringency beyond both initial program requirements and that there is a smooth transition between the single-family and multifamily program requirements. The goal of the reference design is to benchmark HERS</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>

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		projects to a level that will achieve the desired savings above code and the mandate that prescriptive projects meet that level. The proposed multifamily reference design is generally modeling more stringent than the current Certified Homes reference design.	
9	<ul style="list-style-type: none"> <li>Multiple respondents commented that the water heater efficiency in the reference design should not be below the federal minimum requirements.</li> </ul>	<ul style="list-style-type: none"> <li>The original proposal had not been updated for the larger in-unit water heater sizes. This has been fixed in the latest proposal.</li> </ul>	<ul style="list-style-type: none"> <li>The water heater efficiencies have been updated.</li> </ul>
10	<ul style="list-style-type: none"> <li>One respondent suggested adding ventilation fan efficiency requirement into the reference design/prescriptive path.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that ventilation fans can contribute to the energy load of the building. EPA has clarified the efficiency proposals that related to the ventilation fans. These include requirements for bathroom fans, in-line fans, use of the air handler, and central exhaust fans. These are included in the mandatory measures and not just for Prescriptive Path projects.</li> </ul>	<ul style="list-style-type: none"> <li>Efficiency requirements have been more clearly specified.</li> </ul>
11	<ul style="list-style-type: none"> <li>Multiple respondents suggested using source energy savings instead of energy costs savings in ASHRAE modeling.</li> </ul>	<ul style="list-style-type: none"> <li>EPA is currently assessing whether other performance metrics, like savings based on source energy rather than energy cost, can be used for the ASHRAE modeling.</li> </ul>	<ul style="list-style-type: none"> <li>Issue under review.</li> </ul>
<i>Envelope – Air Sealing</i>			
12	<ul style="list-style-type: none"> <li>While one respondent supported the use of the 0.30 cfm50/sf metric, multiple respondents suggested that EPA should have more options for infiltration metrics such as allowing an ACH alternative option similar to LEED in order to align better with other protocols and code. LEED allows 7ACH instead of the compartmentalization metric of 0.30 cfm50/sf. Similarly, one respondent suggested an equivalent metric in cfm75/sf should be established.</li> </ul>	<ul style="list-style-type: none"> <li>EPA reviewed the calculations for ACH in comparison to compartmentalization and does not agree that 7ACH is equivalent to 0.30 cfm50/sf. While EPA does recognize that the compartmentalization metric is more challenging for larger units to meet than smaller, EPA felt that the limits were still feasible and provide benefits for energy use and tenant comfort. EPA also believes it will limit confusion to align with the proposed metric in the update to ANSI 301 (compartmentalization) and only have one metric type. Note that this requirement is not applicable to townhouses and duplexes (two-family dwellings). EPA is also aligning its requirements with RESNET testing</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>

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		protocols which currently describe testing at 50 Pa, not 75.	
	<ul style="list-style-type: none"> <li>Multiple respondents suggested keeping the air sealing details on the field checklist given their inherent value and the value in helping ensure that the unit will be able to meet the compartmentalization metric.</li> <li>One respondent recommended adding back that garages must be sealed off from the occupiable space.</li> <li>One respondent recommended adding blocked and sealed rim space around each dwelling unit.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees with the value of air sealing details and will continue to list them on the Design Review checklist. However, any specific air-sealing items listed on the Rater Field checklist would require verification. With the addition of the compartmentalization test, EPA believes project teams will benefit from having the flexibility to identify the critical leakage points themselves rather than the rigidity and burden of checking mandated air-sealing items, when the performance threshold has already been met.</li> <li>EPA agrees that the garage should be sealed from the occupiable space and this requirement was added.</li> <li>Given the intent that the merged program mandatory items do not increase the stringency beyond both initial program requirements, EPA is not planning to add additional details such as rim space around the unit.</li> </ul>	<ul style="list-style-type: none"> <li>Checklists clarify new structure of air sealing details without changing the policy and garage air sealing was added to requirements.</li> </ul>
<i>Envelope – Thermal Bridging</i>			
13	<ul style="list-style-type: none"> <li>Multiple respondents commented that the elevated slab insulation detail on top of the slab was not durable and potentially very onerous to install. Respondents suggested having alternative options and to add clarity regarding the amount of insulation required at the perimeter of the elevated slab edge and how much vertical insulation is required.</li> </ul>	<ul style="list-style-type: none"> <li>The original proposal focused on the above-slab insulation strategy, but did still permit insulation below slab. Based on feedback received, additional details for the below-slab strategy were developed, with insulation requirements and alternatives developed where structural details prevent the insulation from being continuous.</li> </ul>	<ul style="list-style-type: none"> <li>Additional elevated slab insulation details described in the checklists.</li> </ul>
14	<ul style="list-style-type: none"> <li>There were many comments related to the removal of the advanced framing option. Multiple respondents noted that continuous insulation would be a particular challenge in CZ 3, without the benefit seen in colder climates.</li> </ul>	<ul style="list-style-type: none"> <li>Upon review of the proposed update, and reaffirming its commitment to provide a smooth transition between the single family and multifamily requirements, EPA has revised its thermal bridging proposal to allow for projects in climate zone 1-3 or</li> </ul>	<ul style="list-style-type: none"> <li>Checklists contain significantly changed thermal bridging requirements.</li> </ul>

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	<p>Respondents suggested additional options should be allowed including higher u-values instead or using exterior radiant barrier building wrap to meet the continuous insulation requirement. While one respondent agreed with removing advanced framing, others suggested it should be kept. Finally, multiple respondents noted that R-3 continuous insulation was not enough and that it should be increased to R-5 or higher, especially in colder climate zones.</p>	<p>projects 3 stories or less to use the advanced framing option. EPA also updated the advanced framing option, removing the requirements that would most frequently need a structural exemption in a multifamily project. The intent of the reduction is to include the details that most projects will be able to complete without needing to get an exemption; however, EPA has kept in the allowance to get an exemption for projects that need it. EPA evaluated the types of multifamily projects where advanced framing would effectively reduce thermal bridging and determined that the details generally make the most sense for low-rise projects. EPA also acknowledges that thermal bridging is not as much of a comfort concern in the warmer climate zones and therefore will continue to allow advanced framing as an option there, as it was in Homes. EPA has also increased the insulation level for the continuous insulation in CZ 5-8 to R-5 thus aligning with the current Certified Homes requirements. These are the minimum requirements to reduce thermal bridging and project teams can go above these minimums as needed to avoid the risk of condensation within the wall assembly. In keeping alignment with ENERGY STAR certified homes, EPA is not updating what qualifies as continuous insulation.</p>	
15	<ul style="list-style-type: none"> <li>• One respondent suggested that “insulated siding” should not be permitted as an alternative to continuous exterior rigid insulation.</li> </ul>	<ul style="list-style-type: none"> <li>• While EPA understands that proper installation is critical to the insulated siding performing in an equivalent manner, EPA is intent on avoiding differences in program requirements between the single-family and multifamily programs, except where multifamily performs differently. As insulated siding has been permitted in the single-family program, it is proposed in the new specification as well.</li> </ul>	<ul style="list-style-type: none"> <li>• No policy change.</li> </ul>

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16	<ul style="list-style-type: none"> <li>Multiple respondents suggested that there should be a thermal break required for balconies.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that there is a significant thermal bridge with a projected balcony. EPA also reaffirms its intent that overall, the merged program mandatory items do not increase the stringency beyond both initial program requirements. Given the significance of this thermal break, EPA is proposing to no longer exempt projected balconies, but it will provide an alternate option to increase insulation instead of a thermal break. Project teams can either create a thermal break, or take an additional penalty on the UA calculation in order to meet the minimum insulation requirements.</li> </ul>	<ul style="list-style-type: none"> <li>The updated checklists do not exempt projected balconies from the elevated slab edge insulation requirements, but balconies will have an alternative option to a thermal break.</li> </ul>
17	<ul style="list-style-type: none"> <li>One respondent inquired whether there would be guidance or a requirement to address continuous insulation at challenging details such as at a roof parapet.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that there is value in addressing the thermal bridge that occurs at the roof parapet. EPA also reaffirms its intent that overall, the merged program mandatory items do not increase the stringency beyond both initial program requirements. While EPA recommends addressing this thermal bridge, EPA does not intend to provide guidance or establish a requirement for this detail.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
<i>Envelope - General</i>			
18	<ul style="list-style-type: none"> <li>Multiple respondents have commented that the insulation performance levels (both minimum and in the reference design) and the window minimum levels are too low.</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms its intent that overall, the merged program mandatory items do not increase the stringency beyond both initial program requirements and that there is a smooth transition between the single-family and multifamily program requirements. While the insulation requirements will now reference the commercial code, EPA does not intend to increase the code year reference beyond the reference for the Certified Homes program.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
19	<ul style="list-style-type: none"> <li>One respondent discussed the merits of requiring a thermal boundary diagram during the design stage that is to be submitted to the EPA.</li> </ul>	<ul style="list-style-type: none"> <li>EPA understands the value of such a diagram during the design and encourages all projects to go above and beyond ENERGY STAR requirements as needed to implement the requirements successfully. Raters may voluntarily submit this to providers or the Oversight</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>

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		Organization (for ASHRAE/Prescriptive Paths); however, EPA is not requiring this submission.	
<i>DHW</i>			
20	<ul style="list-style-type: none"> <li>One respondent suggested updating the bathroom fixture requirement to clarify that it applies to bathroom faucets as well as aerators and showerheads.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees with this suggestion and has updated the language accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>Minor edits were made to the faucet language.</li> </ul>
21	<ul style="list-style-type: none"> <li>One respondent suggested that EPA limit the average flow volume per shower compartment or multiple showerheads should not be allowed to run simultaneously.</li> </ul>	<ul style="list-style-type: none"> <li>The low-flow fixture requirements are part of the reference design which means they are a benchmark for the HERS path projects and a requirement for prescriptive path projects. As such, a limit on multiple showerheads would not change the REM model and therefore does not get included in the reference design. However, EPA does agree that a restriction makes sense for Prescriptive Path projects and has incorporated this language into the requirements for that path.</li> </ul>	<ul style="list-style-type: none"> <li>Additional requirements were added for prescriptive path projects.</li> </ul>
22	<ul style="list-style-type: none"> <li>One respondent commented on the DHW pipe insulation level and recommended that it should default to the energy code and not just R-3 in the five locations. Another respondent suggested R-4, as it used in another programs.</li> </ul>	<ul style="list-style-type: none"> <li>EPA understands that alignment with code can be beneficial, however based on experience in the MFHR program, this led to more confusion and questions. Selecting R-3, which is the basis used in ANSI 301, should provide some alignment with projects selecting that Path.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
23	<ul style="list-style-type: none"> <li>One respondent commented that projects with recirculating pumps should not have an easier time in the Prescriptive Path projects than modeled pathways. This commenter suggested that EPA should specify on-demand controls.</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms its intent that overall, the merged program mandatory items do not increase the stringency beyond both initial program requirements and that there is a smooth transition between the single-family and multifamily program requirements. While EPA agrees that on-demand controls are valuable, EPA does not intend to add this requirement at this time. With anticipated changes to ANSI 301, multifamily HERS projects with recirculating systems may find that the recirculation systems are not as penalized as before.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>

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24	<ul style="list-style-type: none"> <li>One respondent commented to raise a concern that no requirements, such as maximum storage temperatures and load calculations, are proposed that limit over or undersizing of the DHW system.</li> </ul>	<ul style="list-style-type: none"> <li>While EPA agrees that proper sizing and storage temperatures of DHW systems are valuable, when determining which requirements from MFHR to propose for the new specification, EPA decided to focus on other ways to reduce hot water energy use (e.g., pipe insulation, heat traps, and verify delivered temperature). While EPA recommends that project teams perform load calculations and verify storage temperatures, EPA does not intend to add this requirement at this time.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
<i>HVAC, Ducts, and Combustion Appliances</i>			
25	<ul style="list-style-type: none"> <li>Multiple respondents commented that commercial load calculation software may lead to oversizing and therefore should not be allowed.</li> </ul>	<ul style="list-style-type: none"> <li>EPA understands that commercial software defaults may lead to oversizing of residential systems. EPA has added new checks on the HVAC Design report and Rater Design Review checklist related to internal gains to mitigate this issue. These are more clearly defined in the updated checklists.</li> </ul>	<ul style="list-style-type: none"> <li>No change in policy, but the new checklists specify the requirements more clearly.</li> </ul>
26	<ul style="list-style-type: none"> <li>Multiple commenters noted that room-by-room load calculations were helpful for pressure balancing, large or multi-story units, and for certain system types such as PTACs.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that room-by-room load calculations are beneficial when trying to determine the specific airflow rate needed for a given space or for sizing unitary/terminal equipment such as PTACs. EPA will not prohibit the use of those types of load calculations. Based on cost concerns raised by Partners and changes to the pressure-balancing requirement, EPA agrees that using unit-level calculations and the HVAC Designer's input on airflow rate will not compromise the integrity of the brand. The program will therefore only require unit-level calculations but still allow room-by-room.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
27	<ul style="list-style-type: none"> <li>Multiple respondents commented that the term 'commissioning' was causing confusion since it means something different than what the checklists were requiring. One respondent suggested using the term 'functional testing' instead.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that the term commissioning has additional meanings in commercial buildings beyond the ENERGY STAR requirements. EPA has incorporated this suggestion and updated the title to the HVAC "Functional Testing" checklist.</li> </ul>	<ul style="list-style-type: none"> <li>The checklist name has been changed.</li> </ul>

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28	<ul style="list-style-type: none"> <li>One respondent suggested that the external static pressure measurement be removed.</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms the intent of the merged program is to limit the differences in program requirements between the single family and multifamily programs. The static pressure measurement has been required for this test in the Homes program and is proposed for the new specification as well.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
29	<ul style="list-style-type: none"> <li>Multiple respondents commented that undercut doors should be allowed to be the only method used for pressure balancing. In addition, one respondent noted that pressure balancing can cause issues such as increased sound transfer.</li> </ul>	<ul style="list-style-type: none"> <li>EPA has updated the requirements to allow undercut doors to be used without needing another method for pressure balancing. In addition, EPA is proposing to only require pressure balancing testing for bedrooms with at least 150 cfm airflow.</li> </ul>	<ul style="list-style-type: none"> <li>The pressure balancing requirement has been updated in the checklists.</li> </ul>
30	<ul style="list-style-type: none"> <li>Multiple respondents suggested requiring insulation on ducts in interstitial or conditioned space due to condensation issues.</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms its intent that overall, the merged program mandatory items do not increase the stringency beyond both initial program requirements and that there is a smooth transition between the single-family and multifamily program requirements. While EPA agrees that reducing condensation risk is valuable, EPA does not intend to add this requirement during the program merging since it is not currently included in either program. In footnote 38 of the Rater Field checklist, EPA still recommends, but does not require, that projects insulate these ducts to prevent condensation.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
31	<ul style="list-style-type: none"> <li>Multiple respondents noted that systems with non-ducted returns may have an issue meeting the lower leakage threshold. Some suggested it is better to disallow non-ducted returns and where specifying 'pancake' units, to require the units to be cased.</li> </ul>	<ul style="list-style-type: none"> <li>While EPA has tried to limit the differences between the single family and multifamily programs, where scenarios specific to multifamily arise, changes have been proposed. Similar to permitting greater duct leakage allowances where additional returns are present, where no return ductwork is present, a lower duct leakage allowance is appropriate.</li> <li>EPA agrees that this lower threshold may be challenging to meet but is intending to give projects flexibility in how to meet the requirement. While EPA</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>

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		recommends using ducted returns, they are not required at this time.	
32	<ul style="list-style-type: none"> <li>One commenter asked why the total duct leakage test was required if all ducts were in conditioned space.</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms the intent of the merged program is to limit the differences in program requirements between the single family and multifamily programs. While the duct leakage to outdoors test was deemed to have less value in multifamily buildings and therefore will not be part of the new specification, the total duct leakage test still has performance benefits, even when all ducts are in conditioned space.</li> <li>EPA is considering exempting systems with less than 10ft of total duct length that are also exempted in the updated ANSI 301 standard.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
33	<ul style="list-style-type: none"> <li>One respondent raised a concern regarding the requirement to have the air handler present during total duct leakage testing, as it is not necessarily always practical to have it installed at rough-in</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms the intent of the merged program is to limit the differences in program requirements between the single family and multifamily programs. The presence of the air handler has been required for this test in the Homes program and is proposed for the new specification as well.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
34	<ul style="list-style-type: none"> <li>Multiple commenters responded to the metric for central exhaust duct leakage. Some suggested the leakage rate should be more stringent, others suggested it is too strict and should align with SMACNA or change to 30% or more. Another suggested that while there is value to testing pre-drywall, significant leakage can result from the drywall connection and that there should be a test at final. Another mentioned the fan needs to be sized appropriately to handle the leakage.</li> </ul>	<ul style="list-style-type: none"> <li>The feedback received on this new metric and threshold varied. EPA has not changed the proposed metric or threshold, but does agree that the test should be permitted to be conducted at final as well, so a modified threshold should be available. EPA has therefore added a 30% duct leakage limit for projects testing at final.</li> <li>EPA also has clarified the fan over-sizing limits which do take into account the extra leakage allowance.</li> </ul>	<ul style="list-style-type: none"> <li>A test metric for final testing was added and the fan sizing requirements were clarified.</li> </ul>
35	<ul style="list-style-type: none"> <li>Multiple respondents commented that EPA should keep the some requirements and others supported removing the some requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Based on stakeholder feedback, EPA has reassessed the some requirement. Instead of removing it, EPA is</li> </ul>	<ul style="list-style-type: none"> <li>Added some requirement to checklists, but</li> </ul>

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		aligning the requirement with the same requirement for ENERGY STAR certified bath fans.	adjusted the metric.
36	<ul style="list-style-type: none"> <li>One respondent suggested requiring filters on all systems including the common areas, another suggested increasing to MERV 8, and another suggested requiring a filter for ducted mini splits, while another supported not having a filter for mini splits and other low static systems.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that filters are beneficial for indoor air quality. EPA reaffirms its intent that overall, the merged program mandatory items do not increase the stringency beyond both initial program requirements and that there is a smooth transition between the single-family and multifamily program requirements. The filter requirement is new for Multifamily High Rise, but exists in Certified Homes. Therefore, EPA is keeping the current Certified Homes requirements for filters and not expanding the requirement to a higher MERV or to additional systems.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
37	<ul style="list-style-type: none"> <li>Multiple respondents have questioned the high continuous local exhaust requirements in kitchens (5ACH) and whether alternatives are available even for non-Passive House projects.</li> </ul>	<ul style="list-style-type: none"> <li>While not developed specifically for the new specification, a policy record (000649) released by the Certified Homes program in December 2017, does expand the current alternative to other projects, that meet certain criteria and was incorporated into footnote 52 of the Rater Field checklist.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
38	<ul style="list-style-type: none"> <li>One respondent requested that an alternative to the 10 ft minimum distance required between air inlets and contamination sources be developed based on the exemptions in other industry standards</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms the intent of the merged program is to limit the differences in program requirements between the single family and multifamily programs. The 10 ft spacing requirement is part of the Homes program and there is no current justification to modify that for multifamily.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
39	<ul style="list-style-type: none"> <li>One respondent requested that provisions for mechanically supplied outdoor air be part of the new specification, rather than projects being permitted to rely on exhaust-only strategies.</li> </ul>	<ul style="list-style-type: none"> <li>While EPA agrees that mechanically supplied outdoor air is effective at providing the occupants with outdoor air, EPA defers to ASHRAE 62.2 to establish the strategies that are minimally acceptable with regards to indoor air quality.</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>
40	<ul style="list-style-type: none"> <li>Multiple respondents mentioned the requirements related to the controls and dampers for OA intakes. One respondent requested an alternative to permit gravity</li> </ul>	<ul style="list-style-type: none"> <li>EPA reaffirms the intent of the merged program is to limit the differences in program requirements between the single family and multifamily programs. Therefore, gravity dampers will not be permitted as an alternative</li> </ul>	<ul style="list-style-type: none"> <li>A verification requirement has been added to the</li> </ul>

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	<p>dampers in certain building and climate zones. One respondent requested that it be part of the Functional Testing checklist. One respondent requested a leakage threshold to be established for the closed damper. Multiple respondents provided feedback that the current requirement needed additional clarity/specificity.</p>	<p>in the new specification and a leakage threshold will not be established. While not available in the initial draft of the Functional Testing Checklist, item 5.2.5 does currently provide a requirement to test the operation of the dampers. EPA is interested in specific feedback in revising the language in item 7.2 and 7.4 to provide the needed clarity.</p>	<p>Functional Testing checklist.</p>
41	<ul style="list-style-type: none"> <li>Multiple respondents commented that a prescriptive approach to reducing energy associated with garage heating systems made sense. Respondents noted the requirements should be clear and should have requirements related to heat trace. One respondent noted that modeling the garage heating as a penalty can be challenging and not necessarily realistic. Another respondent thought that heating the garage should not be allowed other than heat trace with controls. Another respondent recommended requiring pipe wall sensors for heat trace and not ambient air sensors.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees with a prescriptive approach and has specified the requirements for insulation and temperature-based controls in the checklist for additional feedback.</li> <li>For ASHRAE projects, EPA will provide guidance in the Simulation Guidelines on how to model the energy use (in the baseline and proposed). Compared to the current MFHR program and in response to feedback, this will no longer be modeled as a penalty. Additionally, projects following this path are not required to comply with the insulation requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Specific prescriptive requirements were added to the updated checklists.</li> </ul>
<i>Lighting and Appliances</i>			
42	<ul style="list-style-type: none"> <li>One respondent noted that appliances are not always eligible to get ENERGY STAR certified and those appliances should be exempted.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that products, such as commercial dryers, which are not eligible for ENERGY STAR certification do not need to meet this requirement. EPA has clarified this allowance in the updated checklists.</li> </ul>	<ul style="list-style-type: none"> <li>Checklists include a footnote referencing this exemption.</li> </ul>
43	<ul style="list-style-type: none"> <li>One respondent wanted to know why the requirement for ENERGY STAR certification was removed.</li> </ul>	<ul style="list-style-type: none"> <li>ENERGY STAR certified appliances are a cost-effective option with non-energy performance benefits, which many partners will choose to help meet the performance target of the program. However, based on MFHR Partner feedback, there are some situations where the use of certified products can present a challenge. For example, as product specifications</li> </ul>	<ul style="list-style-type: none"> <li>No policy change.</li> </ul>

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		<p>increase in stringency there may temporarily be limited availability as newly compliant products become available or products may be specified early in design that are no longer certified by the time of purchase. In other cases, a particular finish or style of product desired by the partner may not be certified. As a result of these concerns, EPA intends to require the use of certified products in the Prescriptive Path and configure the reference design with certified products to encourage their use, but provide flexibility within the Performance Path for partners to select non-certified products if challenges arise.</p>	
44	<ul style="list-style-type: none"> <li>One respondent suggested bi-level lighting should also be required in the garage.</li> </ul>	<ul style="list-style-type: none"> <li>EPA has updated the requirements to make it clearer that these controls are required in the garage.</li> </ul>	<ul style="list-style-type: none"> <li>The requirement language has been updated with this clarification.</li> </ul>
45	<ul style="list-style-type: none"> <li>One respondent suggested that the phrase “endanger occupant safety” may be too vague and the specific exempted rooms should be listed. Another respondent suggested that an exemption for safety was needed.</li> </ul>	<ul style="list-style-type: none"> <li>EPA has specified the exemption for safety in the requirements in the checklists. EPA is interested in specific suggestions for updating this requirement to be clearer.</li> </ul>	<ul style="list-style-type: none"> <li>The specific requirement language is now included in the checklists.</li> </ul>
<i>Benchmarking</i>			
46	<ul style="list-style-type: none"> <li>One respondent supported a requirement for benchmarking, but was concerned about how it could be required due to the prevalence in multifamily of individual resident meters and privacy concerns.</li> </ul>	<ul style="list-style-type: none"> <li>EPA agrees that benchmarking multifamily buildings is important and that it can be challenging to gain access to the whole building data if it is not set up at construction. EPA has added a requirement for projects with 50 or more units to install an energy meter or monitor or other method to gain access to aggregated whole-building energy data. The requirement and footnote explain the options for meeting this requirement. Access to individual meter data is not required.</li> </ul>	<ul style="list-style-type: none"> <li>A method for gathering whole-building data has been added as a requirement.</li> </ul>