



ENERGY STAR Multifamily New Construction National Program Requirements, Version 1 (Rev. 04)

Eligibility Requirements

The following multifamily building types are eligible to participate in the ENERGY STAR Multifamily New Construction (MFNC) program:

- Any multifamily building with dwelling or sleeping units that is NOT a detached dwelling (e.g., not a single-family home or a duplex)¹; OR
- Any mixed-use buildings with dwelling or sleeping units, where the dwelling units, sleeping units, and common space exceed 50% of the building square footage. Parking garage square footage is excluded from this calculation^{1,2}; OR
- Townhouses, if following the requirements listed in Footnote 3.

Townhouses are also eligible to participate in the ENERGY STAR Single-Family New Homes program, which is a certification program for dwellings (e.g., single-family homes, duplexes) and townhouses.¹ For more information, visit: www.energystar.gov/newhomesrequirements. In addition, multifamily buildings with permit dates prior to July 1, 2021, may be eligible to participate in the ENERGY STAR Single-Family New Homes or Multifamily High Rise programs.⁴ For more information, visit:

To determine the applicable MFNC program requirements, including the minimum Version and Revision, to which a building is eligible to be certified, visit www.energystar.gov/MFNCVersions.

While primarily intended for new construction, existing buildings (e.g., undergoing a gut rehabilitation) are also eligible to participate in the ENERGY STAR Multifamily New Construction program, with guidance available at: www.energystar.gov/GutRehabGuidance.

Note that compliance with these requirements is not intended to imply compliance with all local code requirements that may be applicable to the building to be built.⁵

Partnership, Training, and Credentialing Requirements

The following requirements must be met prior to certifying multifamily buildings:

- The Builder or Developer for the building is required to sign an ENERGY STAR Partnership Agreement and complete the online “Builder / Developer Orientation”, which can be found at www.energystar.gov/homesPA.
- FT Agents must meet one of the following:
 - The HVAC installing contractor AND credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO). An explanation of this process can be found at www.energystar.gov/eshvac; OR
 - Not the HVAC installing contractor, AND
 - Signed up online in EPA’s online database as an FT Agent and watched the online FT Agent orientation, which can be found at www.energystar.gov/ftas; AND
 - Holds one of the credentials listed online here: www.energystar.gov/ftas or is a representative of the Original Equipment Manufacturer (OEM).
- Energy Rating Companies (e.g., rater companies and Providers⁶) are required to sign an ENERGY STAR Partnership Agreement, which can be found at www.energystar.gov/homesPA⁷.
- Raters⁸ are required to complete EPA-recognized training, which can be found at www.energystar.gov/mftraining, and be credentialed by a Home Certification Organization (HCO)⁷ or meet the credential requirements of a Multifamily Review Organization (MRO) prior to completing inspections. Learn more at www.energystar.gov/hco and at www.energystar.gov/mro.
- Modelers for buildings in the ASHRAE Path must sign up online in EPA’s online database as a Modeler and watch the online Modeler orientation, which can be found at www.energystar.gov/ASHRAEdirectory.

ENERGY STAR Certification Process⁹

1. The certification process offers three paths to meet the performance target. Each has varying levels of flexibility to select a custom combination of measures for each building:

- Prescriptive Path:** The units and common spaces meet or exceed all the items in the National Rater Design Review and Field Checklists, which include meeting the minimum requirements set in the ENERGY STAR Multifamily Reference Design, Exhibit 1. Buildings following 1a must be certified through an MRO. EPA recommends that Raters identify their MRO during the design stage, but at the latest, the building must be under MRO oversight prior to the first inspection. MROs have limited discretion to grant an exemption to this policy (e.g., when a building switches Paths).
- ERI Path:** Each unit is equivalent in performance to the minimum requirements of the ENERGY STAR Multifamily Reference Design, Exhibit 1, as assessed through energy modeling, and the building meets or exceeds the requirements in the National Rater Design Review and Field Checklists, which include meeting the minimum requirements set in Exhibit 1 for common spaces. Buildings following 1b must be certified through an HCO.

An EPA-recognized Home Certification Organization (HCO)’s Approved Software Rating Tool shall automatically determine the ENERGY STAR ERI Target, which is the highest ERI value that each rated unit may achieve to earn the ENERGY STAR.¹⁰

Note: Raters must use an Approved Software Rating Tool that has been updated to ANSI / RESNET / ICC 301-2019 or later to use the ERI Path for buildings that exceed five stories.

- ASHRAE Path:** The building meets or exceeds the ASHRAE performance target, as described in Exhibit 3. Buildings following 1c must be certified through an MRO. EPA recommends that Raters identify their MRO during the design stage, but at the latest, the building must be under MRO oversight prior to the first inspection. MROs have limited discretion to grant an exemption to this policy (e.g., when a building switched Paths).



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Buildings must follow the modeling requirements in the ENERGY STAR Multifamily Simulation Guidelines.

Exception: For buildings that are certified as PHIUS+ CORE, 2015 or 2018, achieving a specific source energy use of $\leq 6,500$ kWh/person per year, without renewables, is accepted in lieu of achieving the ASHRAE performance target based on a baseline of ASHRAE 90.1-2016 or earlier. For buildings that are certified as Phius CORE 2021 or Phius ZERO 2021, achieving 10% less than the [Phius CORE 2021 source energy criteria](#), without renewables, is accepted in lieu of achieving the ASHRAE performance target based on a baseline of ASHRAE 90.1-2016 or earlier.

2. Based on the path chosen, select the efficiency measures for the building:
 - a. Prescriptive Path: Meet or exceed the requirements specified in the National Rater Design Review and Field Checklists.
 - b. ERI Path: Meet or exceed the requirements specified in the National Rater Design Review and Field Checklists. Using the same software program specified in Step 1, configure the preferred set of efficiency measures for the unit to be certified and verify that the resulting ERI meets or exceeds the ENERGY STAR ERI Target, as determined in Step 1.
 - c. ASHRAE Path: Meet or exceed the requirements specified in the National Rater Design Review and Field Checklists. Following the Simulation Guidelines, configure the preferred set of efficiency measures for the building to be certified and verify that the resulting energy savings above the ASHRAE Baseline Building meets or exceeds the required performance target per Exhibit 3.

Exception: For buildings that are Phius Certified and submitting the specific source energy use per person in lieu of meeting the ASHRAE Performance Target, calculations are done in accordance with Phius modeling protocols.

Note that, regardless of the path chosen or the measures selected, the Mandatory Requirements for All Certified Multifamily Buildings in Exhibit 2 are also required and impose certain constraints on the efficiency measures selected (e.g., insulation levels, insulation installation quality, window performance, duct leakage). Furthermore, on-site power generation may not be used to meet the ENERGY STAR ERI Target or the performance target in the ASHRAE Path.

3. Upon completion of design, for buildings pursuing the ASHRAE and Prescriptive Paths only, specific documentation may be submitted to an MRO for their review and approval as described in Exhibit 4. EPA strongly recommends submitting this documentation before construction; however, Raters may instead choose to submit the design documentation at final certification. MROs may choose to implement alternative design review requirements.
4. Upon completion of design, multifamily buildings may be eligible for the Designed to Earn the ENERGY STAR designation. To earn this optional additional designation, follow the guidance available at www.energystar.gov/mfdees.
5. Construct the building using the measures selected in Step 2 and the Mandatory Requirements for All Certified Multifamily Buildings, Exhibit 2.
6. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Multifamily Buildings and with the inspection procedures for minimum rated features in ANSI / RESNET / ICC 301, Appendix B. This will require a minimum of two inspections: one at pre-drywall and the other at final. For Townhouses, all items shall be verified for each certified home and sampling protocols shall not be used. For other multifamily building types, sampling protocols are permitted to be used within the limitations defined in Fn. 8. For modular multifamily buildings, 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.¹¹

The Rater must review all items on the National Rater checklists for the whole building¹ to verify that each inspection checklist item has been met within program-defined tolerances.¹

In the event that a Rater determines that a program requirement has not been met, the building cannot earn the ENERGY STAR until the item is corrected. If correction of the item is not possible, the building cannot earn the ENERGY STAR and individual units in the multifamily building also cannot be certified. In the event that an item on a National Rater checklist cannot be inspected by the Rater, the building also cannot earn the ENERGY STAR. The only exceptions to this rule are in the Thermal Enclosure System Section of the National Rater Field Checklist, where the builder may assume responsibility for verifying a maximum of eight items and the sections of the National Rater Field Checklist where a Licensed Professional may assume responsibility for verifying the specified items. A Licensed Professional must be a Professional Engineer or Registered Architect in good standing and possess a current license. This option shall only be used at the discretion of the Rater. When exercised, the builder's and/or Licensed Professionals' responsibility will be formally acknowledged by the builder and/or Licensed Professional signing the checklist for the item(s) that they verified.

In the event that a Rater is not able to determine whether a program requirement has been met (e.g., an alternative method of meeting a checklist requirement has been proposed), then the Rater shall consult their Provider or MRO. If the Provider or MRO also cannot make this determination, then the Rater, Provider, or MRO shall report the issue to EPA prior to building completion at: energystarhomes@energystar.gov and will receive an initial response within 5 business days. If EPA believes the current program requirements are sufficiently clear to determine whether the item in question has been met, then this guidance will be provided to the partner and enforced beginning with the building in question. In contrast, if EPA believes the program requirements require revisions to make the intent clear, then this guidance will be provided to the partner but only enforced for buildings permitted after a specified transition period after the release of the revised program requirements, typically 60 days in length.

This will allow EPA to make formal policy decisions as partner questions arise and to disseminate these policy decisions through the [Policy Record](#) and the periodic release of revised program documents to ensure consistent application of the program requirements.

7. Once verification on all units and common spaces is complete, submit the whole building to the HCO or MRO for final certification (see alternative below). The Rater is required to keep electronic or hard copies of the completed and signed National Rater checklists. In addition, for buildings using Track A, the Rater is required to keep for each dwelling unit and each graded common space an HVAC design report compliant with ANSI / RESNET / ACCA / ICC 310. The Rater must also keep a National HVAC Design Supplement to Std. 310 for Dwellings & Units for each dwelling unit, and, where applicable, the National HVAC Design Supplement to Std. 310 for Common



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Spaces & Central Systems. For buildings using Track B, the Rater is required to keep the National HVAC Design Report. Finally, for both Tracks, when the FT Agent is not a HVAC Credentialed Contractor, National HVAC Functional Testing Checklists for all systems must be kept. Additionally, the following steps are required:

- a. ERI Path: submit the building to the HCO for final certification and follow the HCO's certification and oversight procedures (e.g., quality assurance, recordkeeping, and reporting).

Generally, buildings must be submitted for certification after verification on all units and common spaces is complete. Alternatively, at the discretion of the Provider, individual dwelling units may be conditionally certified prior to the building completion if the following process is observed:

- i. The Provider must generate a [Conditional ENERGY STAR Certification Disclosure letter](#) to be included with the label and certificate for the homebuyer of each conditionally certified unit.
- ii. Once verification on all dwelling units and common spaces is complete, and the whole building is certified, the Provider must generate an [ENERGY STAR Certification Confirmation letter](#) for the builder to deliver to the applicable homebuyers.

In the event that any dwelling unit or common space in the building is ultimately unable to be verified, the building will not be able to earn certification; the Provider must decertify any conditionally certified units; and the builder must notify the applicable homebuyers.

ASHRAE and Prescriptive Path: submit the building to the MRO for final certification with the specified documentation based on as-built conditions, as described in Exhibit 4.

Exhibit 1: ENERGY STAR Multifamily Reference Design ¹²

For buildings pursuing the ERI Path, the ENERGY STAR Multifamily Reference Design is the set of efficiency features modeled to determine the ENERGY STAR ERI Target for each unit pursuing certification. Therefore, while the features below are not mandatory in the units for buildings pursuing the ERI Path, if they are not used then other measures will be needed to achieve the ENERGY STAR ERI Target. The following features are mandatory within the common spaces as specified in the National Rater Design Review and Field Checklists and the Common Space Applicability Notes below. In addition, note that the Mandatory Requirements for All Certified Multifamily Buildings, Exhibit 2, contain additional requirements such as total duct leakage limits, minimum allowed insulation levels, and minimum allowed fenestration performance. Therefore, EPA recommends that partners review the documents in Exhibit 2 prior to selecting measures. Where HVAC systems are not listed in the Reference Design, see the ENERGY STAR ERI Target Procedures for how they are modeled and see National Rater Field Checklist Exhibit X for minimum efficiencies for systems serving common spaces.

For buildings pursuing the Prescriptive Path, ENERGY STAR Multifamily Reference Design is the set of efficiency features that mandatory within the units and, as specified in the National Rater and Field Checklists and the Common Space Applicability notes below, also mandatory within in the common spaces.

This Exhibit is not applicable for buildings pursuing the ASHRAE Path.

Common Space Applicability Notes:

When using the Reference Design for common space measures as specified in the National Rater Design Review and Rater Field Checklist, the following notes apply.

- 1) Insulation levels for common spaces are determined by Item 3.2 in the Rater Design Review Checklist for all Paths and are not based on the ENERGY STAR Reference Design. Per Item 3.2, for all Versions except National v1.2, common space insulation levels must meet or exceed the levels in the 2009 IECC Residential or Commercial chapter. For Version 1.2, common space insulation levels must meet or exceed the levels in the 2021 IECC Residential or Commercial chapter. Buildings may only reference one chapter for all the common spaces in the building. When referencing the Commercial chapter, the required values should come from the "All Other" column and the row that corresponds to the building assembly (e.g., a building with steel-frame walls would use the value in the 'Metal framed' row).
- 2) Windows and glazed entrance doors are to meet or exceed the requirements specified for "Class AW" fenestration in the Reference Design.
- 3) All exterior and common space lighting fixtures are still subject to the efficiency requirements, even though they are not in 'ANSI / RESNET / ICC 301-defined Qualifying Light Fixture Locations'. Therefore, 90% of all exterior and common space fixtures must be ENERGY STAR certified or meet the alternatives defined in the National Rater Field Checklist. This requirement applies to exterior lighting fixtures that are attached to the building, but does not apply to landscape or parking lot lighting fixtures.
- 4) Where an appliance type is not eligible for ENERGY STAR certification the appliance is exempt from this requirement. Where a bathroom faucet or aerator is not eligible for WaterSense certification, (e.g., public use lavatory faucets) the fixture is exempt from this requirement.



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| Hot Climates (2009 IECC Zones 1,2,3) ¹³ | | Mixed and Cold Climates (2009 IECC Zones 4,5,6,7,8) ¹³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Residential Cooling Equipment (Where Provided) in Dwelling Units or Common Spaces. If not listed here, see Rater Field Checklist Exhibit X. ¹⁴ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Cooling equipment meets the applicable efficiency levels below: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> 14.5 SEER AC, Heat pump (See Residential Heating Equipment) | <ul style="list-style-type: none"> 13 SEER AC, Heat pump (See Residential Heating Equipment) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Residential Heating Equipment (Where Provided) in Dwelling Units or Common Spaces. If not listed here, see Rater Field Checklist Exhibit X. ¹⁴ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Heating equipment meets the applicable efficiency levels below, dependent on fuel and system type: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> 80 AFUE gas furnace, 80 AFUE oil furnace, 80 AFUE boiler, 8.2 HSPF / 14.5 SEER air-source heat pump with electric or dual-fuel backup. | <ul style="list-style-type: none"> 90 AFUE gas furnace (common spaces see Exhibit X), 85 AFUE ENERGY STAR oil furnace, 85 AFUE boiler, Heat pump, with efficiency as follows: <ul style="list-style-type: none"> CZ 4: 8.5 HSPF / 14.5 SEER air-source w/ electric or dual-fuel backup, CZ 5: 9.25 HSPF / 14.5 SEER air-source w/ electric or dual-fuel backup, CZ 6: 9.5 HSPF / 14.5 SEER air-source w/ electric or dual-fuel backup, CZ 7-8: 3.5 COP / 16.1 EER ground-source w/ electric or dual-fuel backup. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Envelope, Windows, & Doors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> A radiant barrier if more than 10 linear feet of ductwork are located in an unconditioned attic. | <ul style="list-style-type: none"> No radiant barrier modeled. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Dwelling unit insulation levels meet 2009 IECC levels (Commercial, wood-frame) and Grade I installation per ANSI / RESNET / ICC 301. For common spaces, refer to Item 3.2 of the National Rater Design Review Checklist for insulation levels. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Climate Zone:</th> <th>CZ 1</th> <th>CZ 2</th> <th>CZ 3</th> <th>CZ 4</th> <th>CZ 4 C & 5</th> <th>CZ 6</th> <th>CZ 7</th> <th>CZ 8</th> </tr> </thead> <tbody> <tr> <td>Slab Insulation R-Value:</td> <td>0</td> <td>0</td> <td>0</td> <td>10</td> <td>10</td> <td>15</td> <td>15</td> <td>20</td> </tr> <tr> <td>Slab Insulation Depth (ft):</td> <td>0</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Basement Wall Continuous Insulation R-Value:</td> <td>0</td> <td>0</td> <td>0</td> <td>7.5</td> <td>7.5</td> <td>7.5</td> <td>10</td> <td>12.5</td> </tr> <tr> <td>Wood Framed Floor U-Factor:</td> <td>0.282</td> <td>0.052</td> <td>0.033</td> <td>0.033</td> <td>0.033</td> <td>0.033</td> <td>0.033</td> <td>0.033</td> </tr> <tr> <td>Mass Floor U-Factor:</td> <td>0.322</td> <td>0.087</td> <td>0.087</td> <td>0.074</td> <td>0.064</td> <td>0.057</td> <td>0.051</td> <td>0.051</td> </tr> <tr> <td>Wall Assembly U-Factor:</td> <td>0.089</td> <td>0.089</td> <td>0.089</td> <td>0.089</td> <td>0.064</td> <td>0.051</td> <td>0.051</td> <td>0.036</td> </tr> <tr> <td>Ceiling Assembly U-Factor:</td> <td>0.027</td> <td>0.027</td> <td>0.027</td> <td>0.027</td> <td>0.027</td> <td>0.027</td> <td>0.027</td> <td>0.027</td> </tr> </tbody> </table> | | | | Climate Zone: | CZ 1 | CZ 2 | CZ 3 | CZ 4 | CZ 4 C & 5 | CZ 6 | CZ 7 | CZ 8 | Slab Insulation R-Value: | 0 | 0 | 0 | 10 | 10 | 15 | 15 | 20 | Slab Insulation Depth (ft): | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | Basement Wall Continuous Insulation R-Value: | 0 | 0 | 0 | 7.5 | 7.5 | 7.5 | 10 | 12.5 | Wood Framed Floor U-Factor: | 0.282 | 0.052 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | Mass Floor U-Factor: | 0.322 | 0.087 | 0.087 | 0.074 | 0.064 | 0.057 | 0.051 | 0.051 | Wall Assembly U-Factor: | 0.089 | 0.089 | 0.089 | 0.089 | 0.064 | 0.051 | 0.051 | 0.036 | Ceiling Assembly U-Factor: | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 |
| Climate Zone: | CZ 1 | CZ 2 | CZ 3 | CZ 4 | CZ 4 C & 5 | CZ 6 | CZ 7 | CZ 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Slab Insulation R-Value: | 0 | 0 | 0 | 10 | 10 | 15 | 15 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Slab Insulation Depth (ft): | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basement Wall Continuous Insulation R-Value: | 0 | 0 | 0 | 7.5 | 7.5 | 7.5 | 10 | 12.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wood Framed Floor U-Factor: | 0.282 | 0.052 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass Floor U-Factor: | 0.322 | 0.087 | 0.087 | 0.074 | 0.064 | 0.057 | 0.051 | 0.051 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wall Assembly U-Factor: | 0.089 | 0.089 | 0.089 | 0.089 | 0.064 | 0.051 | 0.051 | 0.036 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ceiling Assembly U-Factor: | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 | 0.027 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Infiltration rate: 0.30 CFM50/ft² of enclosure. Dwelling unit windows and doors, unless Class AW, meet the following: <table border="1"> <tbody> <tr> <td>Window U-Factor:</td> <td>0.60 in CZs 1,2</td> <td>0.35 in CZ 3</td> <td>0.32 in CZ 4</td> <td>0.30 in CZs 4 C,5,6,7,8</td> </tr> <tr> <td>Window SHGC:</td> <td>0.27 in CZs 1,2</td> <td>0.30 in CZ 3</td> <td>0.40 in CZ 4</td> <td>Any in CZs 4 C,5,6,7,8</td> </tr> <tr> <td>Door U-Factor:</td> <td>Opaque: 0.21</td> <td>≤½ lite: 0.27</td> <td>>½ lite: 0.32</td> <td></td> </tr> <tr> <td>Door SHGC:</td> <td>Opaque: Any</td> <td>≤½ lite: 0.30</td> <td>>½ lite: 0.30</td> <td></td> </tr> </tbody> </table> | | | | Window U-Factor: | 0.60 in CZs 1,2 | 0.35 in CZ 3 | 0.32 in CZ 4 | 0.30 in CZs 4 C,5,6,7,8 | Window SHGC: | 0.27 in CZs 1,2 | 0.30 in CZ 3 | 0.40 in CZ 4 | Any in CZs 4 C,5,6,7,8 | Door U-Factor: | Opaque: 0.21 | ≤½ lite: 0.27 | >½ lite: 0.32 | | Door SHGC: | Opaque: Any | ≤½ lite: 0.30 | >½ lite: 0.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Window U-Factor: | 0.60 in CZs 1,2 | 0.35 in CZ 3 | 0.32 in CZ 4 | 0.30 in CZs 4 C,5,6,7,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Window SHGC: | 0.27 in CZs 1,2 | 0.30 in CZ 3 | 0.40 in CZ 4 | Any in CZs 4 C,5,6,7,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Door U-Factor: | Opaque: 0.21 | ≤½ lite: 0.27 | >½ lite: 0.32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Door SHGC: | Opaque: Any | ≤½ lite: 0.30 | >½ lite: 0.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Class AW and all common space fenestration meet 2012 IECC levels (Commercial fenestration U-Factor requirements) below. ¹⁵ <table border="1"> <thead> <tr> <th>Climate Zone:</th> <th>CZ 1</th> <th>CZ 2</th> <th>CZ 3</th> <th>CZ 4</th> <th>CZ 4 C & 5</th> <th>CZ 6</th> <th>CZ 7</th> <th>CZ 8</th> </tr> </thead> <tbody> <tr> <td>Fixed Window U-Factor:</td> <td>0.50</td> <td>0.50</td> <td>0.46</td> <td>0.38</td> <td>0.38</td> <td>0.36</td> <td>0.29</td> <td>0.29</td> </tr> <tr> <td>Operable Window U-Factor:</td> <td>0.65</td> <td>0.65</td> <td>0.60</td> <td>0.45</td> <td>0.45</td> <td>0.43</td> <td>0.37</td> <td>0.37</td> </tr> <tr> <td>Glazed Entrance Door U-Factor:</td> <td>1.10</td> <td>0.83</td> <td>0.77</td> <td>0.77</td> <td>0.77</td> <td>0.77</td> <td>0.77</td> <td>0.77</td> </tr> <tr> <td>SHGC</td> <td>0.27</td> <td>0.27</td> <td>0.30</td> <td>0.40</td> <td>0.40</td> <td>0.40</td> <td>any</td> <td>any</td> </tr> </tbody> </table> | | | | Climate Zone: | CZ 1 | CZ 2 | CZ 3 | CZ 4 | CZ 4 C & 5 | CZ 6 | CZ 7 | CZ 8 | Fixed Window U-Factor: | 0.50 | 0.50 | 0.46 | 0.38 | 0.38 | 0.36 | 0.29 | 0.29 | Operable Window U-Factor: | 0.65 | 0.65 | 0.60 | 0.45 | 0.45 | 0.43 | 0.37 | 0.37 | Glazed Entrance Door U-Factor: | 1.10 | 0.83 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | SHGC | 0.27 | 0.27 | 0.30 | 0.40 | 0.40 | 0.40 | any | any | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Climate Zone: | CZ 1 | CZ 2 | CZ 3 | CZ 4 | CZ 4 C & 5 | CZ 6 | CZ 7 | CZ 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed Window U-Factor: | 0.50 | 0.50 | 0.46 | 0.38 | 0.38 | 0.36 | 0.29 | 0.29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operable Window U-Factor: | 0.65 | 0.65 | 0.60 | 0.45 | 0.45 | 0.43 | 0.37 | 0.37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Glazed Entrance Door U-Factor: | 1.10 | 0.83 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SHGC | 0.27 | 0.27 | 0.30 | 0.40 | 0.40 | 0.40 | any | any | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water Heater | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> DHW equipment meets the following efficiency levels as applicable: <table border="1"> <tbody> <tr> <td>Gas:</td> <td colspan="2">≤55 Gal = 0.67 EF (0.64 UEF, medium; 0.68 UEF, high-draw)</td> <td colspan="2">>55 Gal = 0.77 EF (0.78 UEF, medium; 0.80 UEF, high-draw)</td> </tr> <tr> <td>Electric:</td> <td colspan="4">0.95 EF (0.93 UEF)</td> </tr> <tr> <td>Oil:</td> <td>30 Gal = 0.64 EF</td> <td>40 Gal = 0.62 EF</td> <td>50 Gal = 0.60 EF</td> <td>60 Gal = 0.58 EF</td> <td>70 Gal = 0.56 EF</td> <td>80 Gal = 0.54 EF</td> </tr> </tbody> </table> | | | | Gas: | ≤55 Gal = 0.67 EF (0.64 UEF, medium; 0.68 UEF, high-draw) | | >55 Gal = 0.77 EF (0.78 UEF, medium; 0.80 UEF, high-draw) | | Electric: | 0.95 EF (0.93 UEF) | | | | Oil: | 30 Gal = 0.64 EF | 40 Gal = 0.62 EF | 50 Gal = 0.60 EF | 60 Gal = 0.58 EF | 70 Gal = 0.56 EF | 80 Gal = 0.54 EF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gas: | ≤55 Gal = 0.67 EF (0.64 UEF, medium; 0.68 UEF, high-draw) | | >55 Gal = 0.77 EF (0.78 UEF, medium; 0.80 UEF, high-draw) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electric: | 0.95 EF (0.93 UEF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oil: | 30 Gal = 0.64 EF | 40 Gal = 0.62 EF | 50 Gal = 0.60 EF | 60 Gal = 0.58 EF | 70 Gal = 0.56 EF | 80 Gal = 0.54 EF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thermostat & Ductwork | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Programmable thermostat. Supply ducts in unconditioned attics modeled with R-8 insulation; all other ducts in unconditioned space with R-6 insulation. Duct leakage to outdoors at the greater of ≤ 4 CFM25 per 100 ft² of conditioned floor area or ≤ 40 CFM25. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lighting, Appliances & Fixtures | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> ENERGY STAR refrigerators and dishwashers. ENERGY STAR light bulbs or fixtures in 90% of ANSI / RESNET / ICC 301-defined Qualifying Light Fixture Locations. For all other spaces, refer to the Common Space Applicability Notes on page 3.¹⁵ WaterSense bathroom faucets, bathroom aerators, and showerheads.¹⁵ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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Two tracks are provided for satisfying the mandatory requirements for all certified buildings, Exhibit 2. Track A – HVAC Grading by Rater allows a Rater to utilize ANSI / RESNET / ACCA 310¹⁶, a standard for grading the installation of residential HVAC systems serving individual spaces and a Functional Testing Agent to verify commercial and central systems. Track B – HVAC Testing by FT Agent utilizes a Functional Testing Agent for all systems. Either track may be selected, but all requirements within that track must be satisfied for the building to be certified.

Exhibit 2: Mandatory Requirements for All Certified Multifamily Buildings

| Party Responsible | Mandatory Requirements |
|---|--|
| Requirements Applicable to Track A & B | |
| Rater | <ul style="list-style-type: none"> • Completion of MFNC National Rater Design Review Checklist, Version 1 / 1.1 / 1.2 • Completion of MFNC National Rater Field Checklist, Version 1 / 1.1 / 1.2 |
| Builder or Developer | <ul style="list-style-type: none"> • Completion of MFNC National Water Management System Requirements, Version 1 / 1.1 / 1.2 |
| Requirements Only Applicable to Track A – HVAC Grading by Rater¹⁶ | |
| HVAC System Designer | <ul style="list-style-type: none"> • Completion of HVAC design report(s) compliant with ANSI / RESNET / ACCA 310, plus the SFNH / MFNC National HVAC Design Supplement(s) to Std. 310 for Dwellings & Units, All Versions • Completion of the MFNC National HVAC Design Supplement to Std. 310 for Common Spaces & Central Systems, All Versions, where applicable |
| Functional Testing Agent | <ul style="list-style-type: none"> • Completion of applicable sections of the National HVAC Functional Testing Checklist, Version 1 / 1.1 / 1.2. Exempt from Sections 2 and 3 for Dwelling Unit HVAC as the Rater is the party responsible for assessing these systems installation quality in accordance with ANSI / RESNET / ACCA 310 |
| Requirements Only Applicable to Track B – HVAC Testing by FT Agent | |
| HVAC System Designer | <ul style="list-style-type: none"> • Completion of MFNC National HVAC Design Report, Version 1 / 1.1 / 1.2 |
| Functional Testing Agent | <ul style="list-style-type: none"> • Completion of MFNC National HVAC Functional Testing Checklist, Version 1 / 1.1 / 1.2 |



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Exhibit 3: ASHRAE Path Performance Targets

The ASHRAE Performance Targets described below are required for all buildings pursuing the ASHRAE Path in states under Version 1. The ASHRAE Path Performance Target for other Versions can be found at www.energystar.gov/mfnc.

Buildings using the ASHRAE Path in states that have adopted as the commercial code the 2012 IECC, 2015 IECC, 2018 IECC, 2021 IECC, ASHRAE 90.1-2010, ASHRAE 90.1-2013, ASHRAE 90.1-2016 or equivalent, will be required to meet a Performance Target of 15% energy cost savings when compared to the energy code under which the building is permitted (unless otherwise noted below). Buildings using the ASHRAE Path in states that have adopted as the commercial code the 2021 IECC or ASHRAE 90.1-2019 will be required to meet a Performance Target of 15% energy cost savings when compared to ASHRAE 90.1-2016. All other buildings must meet the national requirement of 15% over ASHRAE 90.1- 2007.

Notes and Exceptions:

- **Local Code Exception:** While local city or town codes may differ from the state code, the determination for the ENERGY STAR program is based on the commercial code adopted by the state, not the local jurisdiction. In an instance where the building is permitted under a local code that is not the same as the state code, the Performance Target is based on the state code in place. The permit application or issue date will be used to determine what state code was in place in the state. To determine the code adopted by the state and its effective date, please visit www.energycodes.gov.
- **Modeling options:** To reduce the burden of applying two different codes to a given building, buildings are allowed to use alternate targets of 20% savings over ASHRAE 90.1-2007 as equivalent to 15% over ASHRAE 90.1-2010; and 25% savings over ASHRAE 90.1-2007 and 20% savings over ASHRAE 90.1-2010, as equivalent alternatives to 15% savings over ASHRAE 90.1-2013.
- **Appendix G version:** For buildings pursuing performance targets based on ASHRAE 90.1-2007 or ASHRAE 90.1-2010, the building must use the Appendix G of the code corresponding to their Performance Target or Appendix G from ASHRAE 90.1-2016. Buildings pursuing targets based on ASHRAE 90.1-2013 or later must use Appendix G from ASHRAE 90.1-2016. Buildings using Appendix G from ASHRAE 90.1-2016 must use the ASHRAE Path Calculator_AppG2016 or the [ASHRAE Standard 90.1 Performance Based Compliance Form](#) and Simulation Guidelines_AppG2016 available on the Guidance Documents page which can be found at www.energystar.gov/mfguidance. Buildings may not use Appendix G from ASHRAE 90.1-2016 if they are using the 20% or 25% Performance Target Options.
- **Performance Target for Buildings Modeling using Appendix G from ASHRAE 90.1-2016:** Buildings using this approach to meet a performance target above ASHRAE 90.1-2013 or later, must meet a target of 15% energy cost savings OR 15% source energy savings when compared to the energy code under which the building is permitted.

| State Commercial Code | Performance Target Options: Savings (%) above varying ASHRAE 90.1 Baselines | | | |
|-----------------------|---|-------------------|-------------------|-------------------|
| | 90.1-2007 | 90.1-2010 | 90.1-2013 | 90.1-2016 |
| 2009 IECC / 90.1-2007 | 15% ¹⁷ | N/A | N/A | N/A |
| 2012 IECC / 90.1-2010 | 20% ¹⁸ | 15% ¹⁷ | N/A | N/A |
| 2015 IECC / 90.1-2013 | 25% ¹⁸ | 20% ¹⁸ | 15% ¹⁹ | N/A |
| 2018 IECC / 90.1-2016 | N/A | N/A | N/A | 15% ¹⁹ |
| 2021 IECC / 90.1-2019 | N/A | N/A | N/A | 15% ¹⁹ |



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Exhibit 4: ASHRAE and Prescriptive Path MRO Documents

The following documents must be submitted to the MRO. Those designated as 'final only' are only submitted at final certification.

| Party Responsible | Documents |
|--|---|
| Requirements Applicable to All Buildings | |
| Rater | <ul style="list-style-type: none"> • Multifamily Workbook • MFNC National Rater Design Review Checklist, Version 1 / 1.1 / 1.2 • MFNC National Rater Field Checklist, Version 1 / 1.1 / 1.2 (Final only) • Construction Documents • Photo Documentation (Final only) |
| Requirements Applicable to ASHRAE Path | |
| ASHRAE Modeler | <ul style="list-style-type: none"> • ASHRAE Path Calculator OR ASHRAE Standard 90.1 Performance Based Compliance Form • Modeling file OR model input and output files |
| Requirements Only Applicable to Track A – HVAC Grading by Rater ¹⁶ | |
| HVAC System Designer | <ul style="list-style-type: none"> • HVAC design report(s) compliant with ANSI / RESNET / ACCA 310 • SFNH / MFNC National HVAC Design Supplement(s) to Std. 310 for Dwellings & Units, All Versions • MFNC National HVAC Design Supplement to Std. 310 for Common Spaces & Central Systems, All Versions, where applicable |
| Functional Testing Agent | <ul style="list-style-type: none"> • National HVAC Functional Testing Checklists, Version 1 / 1.1 / 1.2 |
| Requirements Only Applicable to Track B – HVAC Testing by FT Agent | |
| HVAC System Designer | <ul style="list-style-type: none"> • MFNC National HVAC Design Report, Version 1 / 1.1 / 1.2 |
| Functional Testing Agent | <ul style="list-style-type: none"> • MFNC National HVAC Functional Testing Checklist, Version 1 / 1.1 / 1.2 (Final only) |

Notes:

- For multifamily projects with multiple buildings, each building must demonstrate compliance with the program requirements, but can be documented using one Multifamily Workbook and one HVAC Design Report per project.
- For buildings pursuing the ASHRAE Path, where buildings are identical, only one set of modeling files and ASHRAE Path Calculator are required to be submitted. At the discretion of the ASHRAE modeler, connected buildings may be modeled as one building or separate buildings.
- For buildings choosing the Phius alternative modeling option in the ASHRAE Path, in lieu of submitting the ASHRAE Path Calculator and modeling files, documentation is instead provided that demonstrates achievement of the required source energy per person and final certification from Phius.
- For the Excel-based ASHRAE Path Calculator and Multifamily Workbook, while Partners are encouraged to always use the newest versions available online, unless otherwise specified, file updates between Program revisions will not be required. After a Program revision, Raters will be required to use the updated documents based on the enforcement timeline set for the revision.



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Footnotes:

1. Buildings that do not contain dwelling or sleeping units are not eligible for certification under MFNC. The term 'building' refers to a structure that encompasses dwelling/sleeping units and (if present) common spaces, sharing one or more of the following attributes: a common street address, a common entrance or exit, central/shared mechanical systems, or structurally interdependent wall or roof systems. Attached structures such as townhouses and 4-story two-unit structures (commonly referred to as "2-over-2s") may be considered separate buildings if they are divided by a vertical fire separation wall from the foundation to the roof sheathing and share none of the other attributes listed above. A skyway or a breezeway that connects two structures is not considered a common entrance or exit. A dwelling unit, as defined by ANSI / RESNET / ICC 301, is a single unit that provides complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation. A 'sleeping unit', as defined by ANSI / RESNET / ICC 301, is a room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. A 'dwelling', as defined by ANSI / RESNET / ICC 301, is any building that contains one or two dwelling units used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes. For the purposes of eligibility, hotels, motels, and [senior care facilities](#) are not considered multifamily buildings. Visit https://www.energystar.gov/partner_resources/residential_new/program_reqs/mfnc_building_eligibility for more information.
2. The term 'common space' refers to any spaces in the building being certified that serve a function in support of the residential part of the building that is not part of a dwelling or sleeping unit. This includes spaces used by residents, such as corridors, stairs, lobbies, laundry rooms, exercise rooms, residential recreation rooms, and dining halls, as well as offices and other spaces used by building management, administration, or maintenance in support of the residents.
3. A 'townhouse', as defined by ANSI / RESNET / ICC 301, is a single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof and with open space on at least two sides. Townhouses earning the ENERGY STAR through the Multifamily New Construction program must use the program documents described in Exhibit 2. They also must use the ERI Path of the Multifamily New Construction program as they are not eligible to use the Prescriptive Path or ASHRAE Path. However, the ENERGY STAR ERI Target for townhouses must be determined using Exhibit 1 of the relevant ENERGY STAR Single-Family New Homes Program Requirements.
4. The 'permit date' is the date on which the permit authorizing construction of the building was issued. Alternatively, the date of the Rater's first site visit or the application date of the permit is allowed to be used as the 'permit date'.
5. While certification will result in compliance with many code requirements, a Rater is not responsible for ensuring that all code requirements have been met prior to certification. For more information about how these program requirements help satisfy code requirements, visit: www.energystar.gov/newhomesguidance. In the event that a code requirement, a manufacturer's installation instructions, or an engineering document conflicts with a requirement of the ENERGY STAR program (e.g., slab insulation is prohibited to allow visual access for termite inspections), then the conflicting requirement within these program requirements shall not be met. Certification shall only be allowed if the Rater has determined that no equivalent option is available that could meet the conflicting requirement (e.g., switching from exterior to interior slab edge insulation). Note that a dwelling unit must still meet its ENERGY STAR ERI Target. Therefore, other efficiency measures may be needed to compensate for the omission of the conflicting requirement.
6. The term 'Provider' refers to an Approved Rating Provider as defined by ANSI / RESNET / ICC 301 that is a designee of an HCO.
7. Home Certification Organizations (HCOs) are independent organizations recognized by EPA to implement an ENERGY STAR certification program for single-family and multifamily homes and apartments using an Energy Rating Index (ERI) compliance path. Learn more and find a current list of HCOs at www.energystar.gov/partner_resources/residential_new/working/other_participants/hco.
8. The term 'Rater' refers to the person(s) completing the third-party verification required for certification. The person(s) shall: a) be a Certified Rater, Approved Inspector, as defined by ANSI / RESNET / ICC 301, or an equivalent designation as determined by an HCO or MRO; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/mftraining.
For multifamily building types other than Townhouses, Raters who operate under an MRO or an HCO with a Sampling Protocol are permitted to verify the minimum rated features of the building and to verify any Checklist Item designated "Rater Verified" using an MRO or HCO-approved sampling protocol. Functional Testing Agents, except the installing contractor, may follow the sampling protocol described in the [MFNC HVAC Functional Testing Checklist Sampling Protocols](#). No other parties are permitted to use sampling. All other items shall be verified for each certified building. For example, no builder verified items are permitted to be verified using a sampling protocol.
9. These requirements apply to all dwelling units, sleeping units, common spaces², and garages (open or enclosed) in the building being certified, and where specified, parking lots. These requirements do not apply to commercial or retail spaces. These requirements do not apply to common spaces that are located in buildings on the property without any dwelling or sleeping units. These requirements do not apply to parking garages or lots where the cost of the energy use of the parking garage or lot is not the responsibility of the Builder/Developer, Building Owner or Property Manager.
10. The software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Multifamily Reference Design) this target for each rated unit by following Rev. 04 of the National Multifamily ERI Target Procedure, Version 1, available at www.energystar.gov/mfncrequirements.
11. A modular building is a prefabricated building 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 buildings.
12. 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 always require, that current ENERGY STAR products be included



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in ENERGY STAR buildings. For buildings pursuing the prescriptive path, where 'ENERGY STAR' is indicated, ENERGY STAR certification is required for these products. For current ENERGY STAR products, visit www.energystar.gov/products.

13. 2009 IECC Climate Zone designations, as defined and illustrated in Section 301 of the code, are used to configure the ENERGY STAR Reference Design.
14. Where equipment is rated in SEER2, or HSPF2, the following table shall be used to determine the required efficiency. The first two rows show the efficiency listed in Exhibit 1, and below are rows for the converted metric by equipment type.

| | SEER | | HSPF | | | |
|-------------------------------|-------|------|-------|-----|------|-----|
| | 13 | 14.5 | 8.2 | 8.5 | 9.25 | 9.5 |
| Equipment Type | SEER2 | | HSPF2 | | | |
| Ductless Systems | 13.0 | 14.5 | 7.3 | 7.6 | 8.3 | 8.5 |
| Ducted Split System | 12.3 | 13.7 | 6.9 | 7.2 | 7.8 | 8.0 |
| Ducted Single Packaged System | 12.3 | 13.7 | 6.8 | 7.1 | 7.7 | 7.9 |

15. When using the Reference Design for common space measures as specified in the National Rater Design Review and Rater Field Checklist, first review the Common Space Applicability Notes that are included in Exhibit 1.
16. Track A – HVAC Grading by Rater shall use ANSI / RESNET / ACCA 310 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO or MRO that the building is being certified under.
17. Appendix G from the referenced code or from ASHRAE 90.1-2016 or may be used.
18. These Performance Target options may not be used for buildings using Appendix G from ASHRAE 90.1-2016.
19. Appendix G from ASHRAE 90.1-2016 must be used.