



Highlights from the Multifamily New Construction Program By Participant

Version 1/1.1/OR-WA 1.2/CA 1.2, Revision 02

Documents related to Revision 02 of the Multifamily New Construction Program are posted to the [ENERGY STAR website](#). Partners are permitted to use this Revision immediately, at their discretion, but must apply this Revision to all multifamily buildings certifying under the Multifamily New Construction Program, that are permitted on or after July 01, 2021.

As part of this Revision, all major program documents have been updated. Redline documents showing all tracked changes except formatting changes are also available. EPA strongly encourages partners to review these documents. Many changes were made to remain aligned with Revision 11 of the Certified Homes, which may not be repeated here. The most substantial updates specific to MFNC are summarized below:

General / Program Eligibility & Key Transition Dates

- Updates the program transition date from January 1 to July 1, 2021
- Describes the transition timeline to Version 1.1 for PA and NE
- Clarifies that hotels, motels, and senior care facilities are not considered multifamily buildings for the purpose of eligibility
- Where references were made to the Certified Homes program, they now refer to Single-Family New Homes
- Where references were made to Verification Oversight Organizations (VOO), they now refer to Home Certification Organizations (HCO)
- For improved usability, all checklists were updated with hyperlinked footnotes

Changes for the FT Agent

- Allows Mechanical Engineers that are Licensed Professional Engineers (PE) to serve as the FT Agent
- Confirms that FT Agents may not be employed by the same company as the installing contractor
- Provides sampling protocols for FT Agents
- In lieu of an FT Agent completing Sections 2 or 3 of the HVAC FT Checklist, allows HVAC grading of residential systems serving common spaces to be done by the Rater
- Clarifies text in Section 2 to better describe systems that are subject to the refrigerant charge tests (i.e., have field-installed refrigerant piping or components) and those that are exempt
- Provides an alternative to Section 3 (Indoor HVAC Fan Airflow) for systems with total supply ductwork 10 ft or less
- Removes the Section 5 requirement to inspect the condensate drain pan and to measure inlet and outlet temperatures at the terminal units
- Clarifies that Section 6 applies to shared VRFs that are commercial-grade and serve multiple dwelling units; MFNC continues to exempt variable refrigerant flow (VRF) systems that serve one dwelling unit from refrigerant charge testing
- Clarifies that Section 7 applies to commercial-grade boilers that provide space heating to multiple dwelling units and not to boilers that provide DHW or serve just one dwelling unit or just the common spaces
- Provides an exemption to certain tests based on temperature lock-outs due to ambient temperature
- Reduces the number of times certain systems must be cycled on/off during functional testing

Changes for the Rater

Program Requirements

- Improved formatting in NPR to make it easier to identify the Reference Design for Version 1, 1.1, and OR-WA 1.2 and easier to determine how the Reference Design applies to Common Spaces
- Adds requirement for Rater to verify pest screens on air inlets
- Clarifies that ducted systems not subject to a duct leakage test are still subject to visual inspection
- Clarifies the requirement for ventilation override control is for all dwelling units, while still only requiring them to be 'readily-accessible' in townhouses
- Allows continuous operation of return-side systems (e.g., inline fans), as long as they don't require continuous operation of the HVAC fan



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- More clearly defines requirements for ventilation inlets connected to the return ducts of HVAC systems, including an alternative to measuring airflow at the inlet if a constant airflow regulating damper is installed
- Clarifies that multi-splits, ductless systems, and systems with total supply ductwork 10 ft or less are not subject to the Rater-measured static pressure test requirement
- Provides an alternative whole-building airtightness test threshold (1 ACH50) that qualifies for the reduced continuous kitchen exhaust rates when balanced ventilation is installed
- Introduces the option for Rater to perform HVAC grading of residential systems serving common spaces rather than the FT Agent completing Sections 2 and 3 of the HVAC FT Checklist
- If the Rater is completing Section 5 of the HVAC FT Checklist, removes the requirement to inspect the condensate drain pan and to measure inlet and outlet temperatures at the terminal units

Multifamily Workbook

- Rater Design and Field Checklists are updated in the Multifamily Workbook, in accordance with the changes noted above
- Created a Must Correct Report, available from the Rater Design Review and Rater Field Checklist
- Created a Verification Phase report and dropdown, available from the Rater Field Checklist
- Created button to add rows/columns to tables
- Added PHIUS tab to demonstrate 6,500 kWh/yr per person (without renewables)
 - PHIUS projects using this performance target alternative under the ASHRAE Path should use the Lighting tab in the MF Workbook and do not need to complete an ASHRAE Path Calculator
- Added a 'Failed Tests' table to the Unit Testing Results tab for project teams to enter failed tests
- Updated the Rater Field Checklist tab to add a count of Builder Verified Items. This information is also listed in the Certificate & Label Data Review tab. Builders may verify up to 8 items of the Rater Field Checklist
- Added details about the building number, project type, and PHIUS participation to the Project Information tab
- Added an 'MRO Certificate Review' dropdown to the DHW_SHW Schedule and Heating and Cooling Schedule tabs to allow project teams to notify MROs if they prefer to have their certificates reviewed in the Workbook or to submit the files separately

Changes for the HVAC Designer

- Provides an alternative to use the Certified Homes HVAC Design report for dwelling units, which may be auto-generated by certain residential load calculation software. This can reduce effort in completing the MFNC HVAC Design Report, but it is still required for common spaces and sections/items not addressed in the Certified Homes HVAC Design Report
- Expands the options for attic "access" with respect to the requirement for HVAC filters to be accessible
- Updates Rater-F Exhibit X to better describe minimum efficiencies for PTAC's and to reference ASHRAE 90.1-2010 for minimum efficiencies for equipment not listed in the Exhibit
- Requirement for ventilation override control doesn't change, but was revised for better clarity and alignment with Rater-F
- Allows continuous operation of return-side systems (e.g., inline fans), as long as they don't require continuous operation of the HVAC fan
- More clearly defines requirements for ventilation inlets connected to the return ducts of HVAC systems, including an alternative to measuring airflow at the inlet if a constant airflow regulating damper is installed
- Clarifies that Townhouses are still required to use Manual D for duct design, while other dwelling units have other options
- Adds relevant items from the Functional Testing Checklist for improved visibility
- Adds alternative options for documenting equipment sizing when equipment is outside the scope of Manual S
- Allows heating equipment to be over-sized as needed if equipment is also providing domestic hot water or where standby equipment is installed for safety/redundancy
- Provides guidance on documenting equipment that is used in multiple spaces to avoid duplicate data entry
- Provides additional guidance on documenting load calculations for a group design



Changes for the Energy Modeler

ASHRAE Path

- Creates an alternative modeling pathway and performance target for PHIUS Certified projects that is based on modeling performed under that certification and oversight
- Allows energy cost or source energy savings when demonstrating achievement of the Performance Target for ASHRAE Path projects, when modeling to ASHRAE 90.1 Appendix G 2016 with ASHRAE 90.1-2013 baselines or later. See Policy Record ID 00091 for additional documentation requirements
- Announces the development of the new Excel-based ASHRAE 90.1 Compliance Form and plans for its use in the MFNC program
- Clarifies that the Proposed Design Submittal is strongly recommended, but not required
- Updates definitions for sleeping units, parking garages, common spaces to be consistent with other program documents
- Clarifies that townhome projects must use the ERI Path and not the ASHRAE Path
- Clarifies how variations of bi-level lighting can take the occupancy sensors performance credit
- Corrects the minimum illumination levels (footcandles) for corridors to properly align with the 10th edition of IESNA and adds values for common laundry rooms (20 fc)
- For ASHRAE 90.1-2010 projects using the original Simulation Guidelines, adds text to clarify when 2010 requirements apply when modeling the Baseline
- For ASHRAE 90.1-2016 Appendix G projects:
 - Updates the lighting power density for unspecified lighting in dwelling units to 0.6 W/ft² when modeling ASHRAE 90.1-2016 as the reference edition
 - Adds the Building Performance Factors (BPF) for ASHRAE 90.1-2019
- *ASHRAE Path Calculator* includes improvements from the Lighting tab of the *MFNC Workbook* to the Interior Lighting tab

ERI Path

- Sets 0.95 EF as the electric water heater efficiency in the Reference Design, for all storage capacities
- Updates wall U-factor requirements in CZ 4, 4C & 5 for Version 1
- Removes ENERGY STAR clothes washers and dryers from the Reference Design
- For most interior walls, not exposed to the exterior, clarifies that those are uninsulated in the Reference Design, rather than matching the insulation levels used in the Rated Home at those walls

Changes for the Architect

Envelope Requirements

- Updates maximum wood-framed wall U-factor requirements in CZ 4, 4C & 5
- Clarifies requirements for skylights
- Clarifies when requirements apply to specific types of ceilings and walls
- Clarifies podium insulation requirements and provides other alternatives
- Clarifies that insulation at the bottom of a heated plenum can be either Grade I or Grade II
- Clarifies that projected balconies with a thermal break of at least R-2 are not subject to the modification of area in the total UA calculation
- Clarifies that the reduced thermal bridging requirements for above-grade walls apply to walls adjacent to the exterior, rather than walls to unconditioned spaces
- If balanced ventilation is installed and designing for the reduced continuous kitchen exhaust rates, whole-building airtightness test threshold can be less than either 1 ACH50 or the current requirement of 0.05 cfm50/ft²

Other Requirements

- Expands the options for attic “access” with respect to the requirement for HVAC filters to be accessible
- Clarifies the ENERGY STAR and WaterSense requirements for appliances and plumbing fixtures in the ERI and Prescriptive Paths
- For water management, updates language regarding permeable and impermeable surfaces, as well as clarifies language for requirements related to sump pits