



Now Available: The ENERGY STAR Multifamily New Construction (MFNC) Program!

Rebecca Hudson, EPA

Gayathri Vijayakumar, Steven Winter Associates

February 26, 2019



Today's Agenda

Overview of the **MFNC** program

- Building Eligibility
- Implementation Timeline
- ES Partners & Other Participants
- 3 Certification Paths
- Mandatory Requirements

Alignment with other Programs

MFNC website

Q&A: energystarhomes@energystar.gov





Q&A Session Tomorrow

ENERGY STAR Multifamily New Construction Program: Q&A

Wednesday, February 27, 2019 - 8:30 AM-10:00
AM, Bayside A

Presenters: Gayathri Vijayakumar and Rebecca
Hudson



MFNC Building Eligibility

ES MF New Construction Prgrms: pre-2019

- Single Family Homes
- Factory Built Homes
- Low Rise Multifamily Buildings

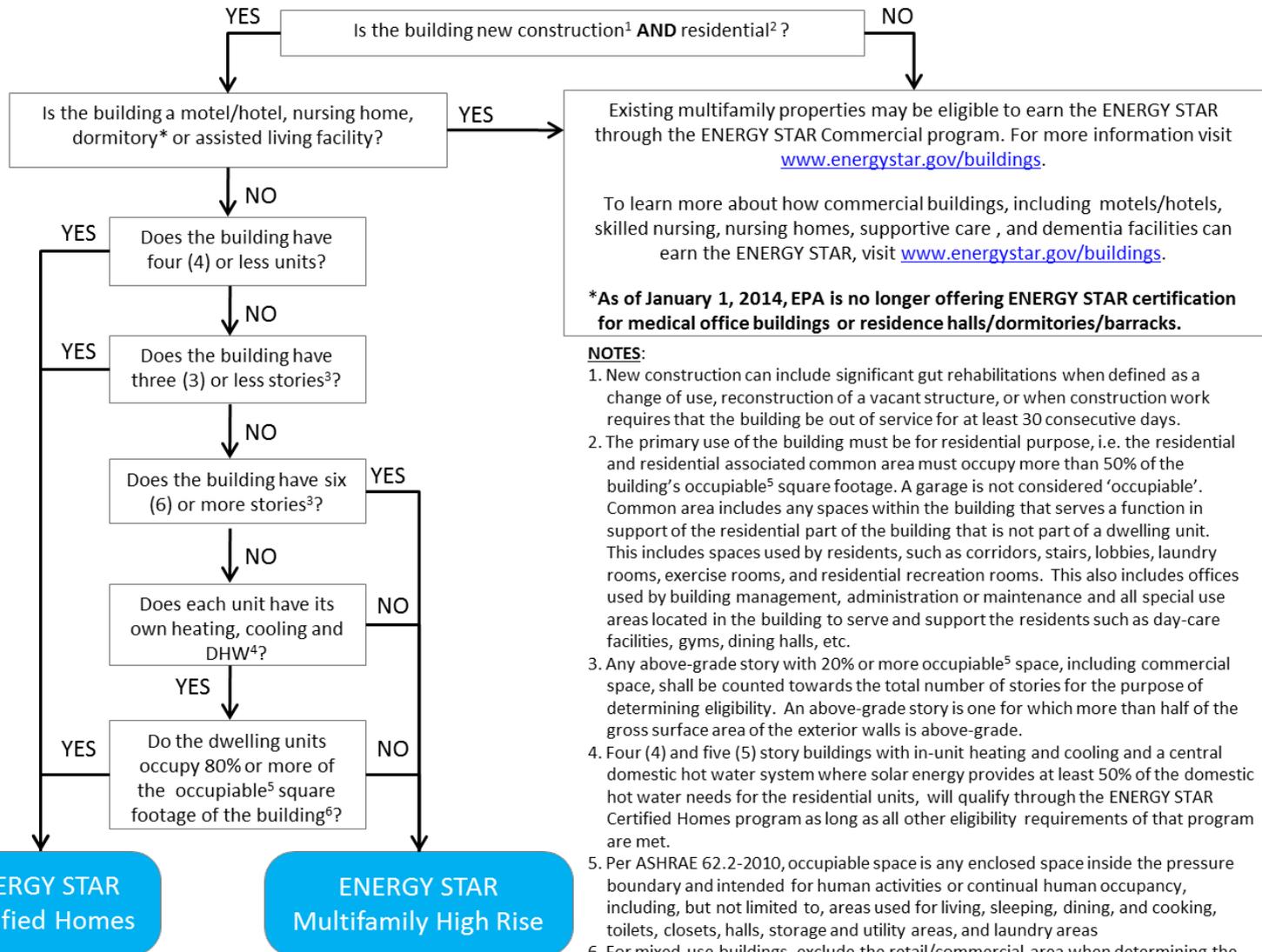


Certified Homes
(ESCH)

- Mid and High Rise Multifamily Buildings
- Launched in 2011 to cover buildings previously ineligible for Certified Homes



MFHR





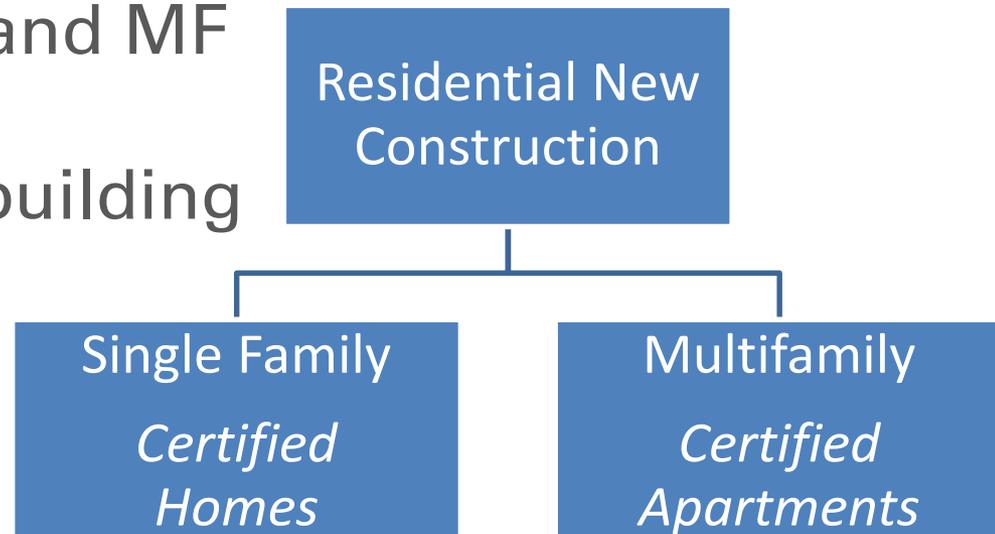
Goal of ENERGY STAR MFNC Program

Delineation between SF and MF

One MF program for all building heights with common space requirements

What is Single-Family?

- Detached homes
- Two-family dwellings
- Townhomes (IRC definition)





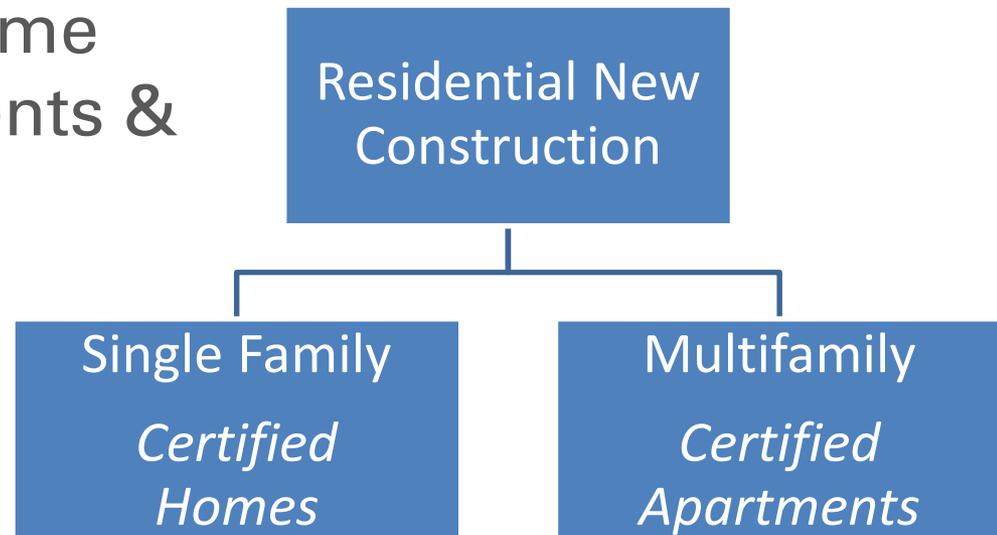
What is Multifamily?

Townhomes too, with some revised/added requirements & ESCH Reference Design

Most attached housing

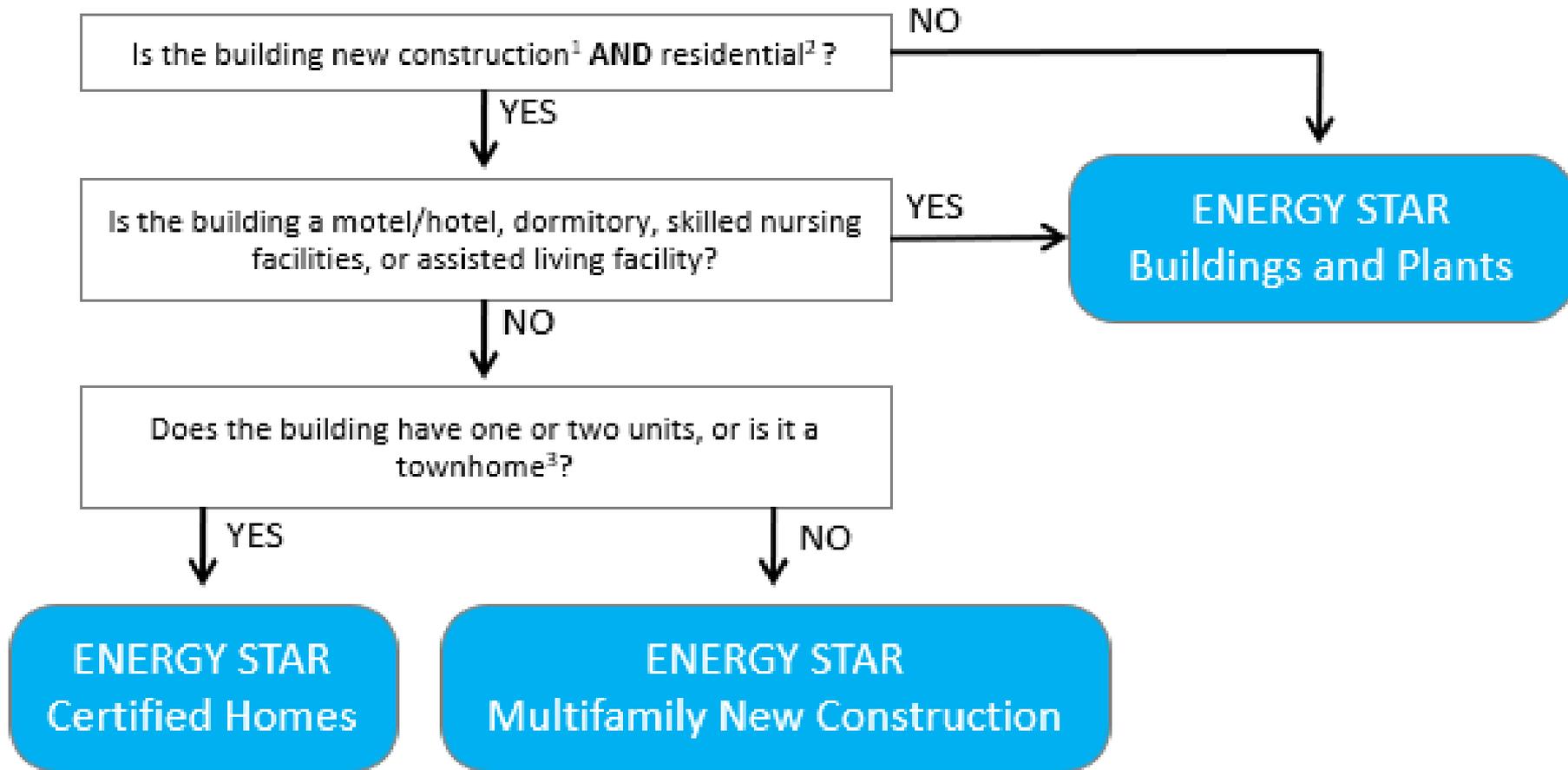
Mixed use, if residential is more than 50% by OSF

Not hotels, dorms, skilled nursing, or assisted living





ENERGY STAR Program Decision Tree





Program Decision Tree: Footnote Summary

1. Gut rehabilitations are allowed if the building is able to meet all the program requirements
2. Residential and common space definitions
3. Townhome definition and rules
4. Occupiable space definition

Program Decision Tree: Footnote 3

3. Townhomes may use the MFNC Checklists, but they must use the ERI Path and Certified Homes Reference Design.

A townhome is defined as 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.



ENERGY STAR MFNC Building Types





MFNC Implementation Timeline



Specification Development Timeline

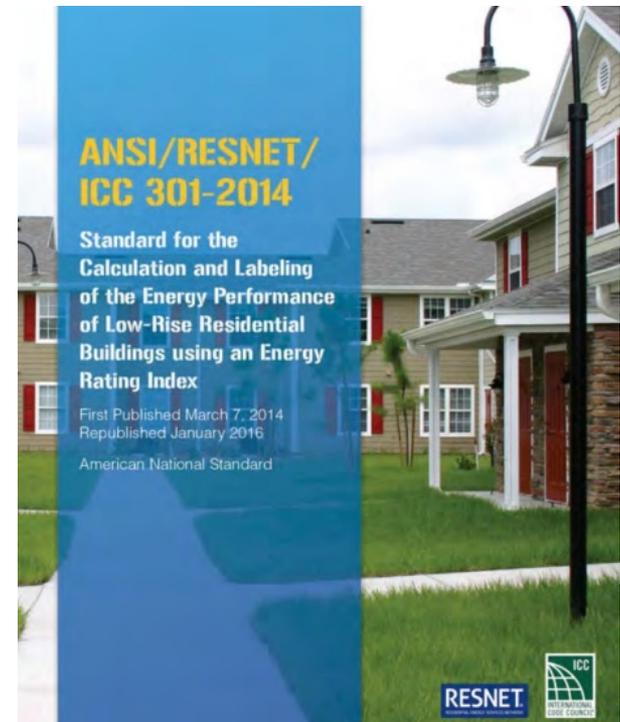
- Stakeholder Feedback 2017-2018
 - Nov/Dec 2017:** Webinar and Comment Period
 - Feb/Mar 2018:** RESNET, Webinar & Comment Period
 - June 2018:** Final Comment Period

Presentations, comment responses and highlights documents available at www.energystar.gov/mfspec

- **Nov 2018:** Requirements Documents posted

Concurrent ANSI Standard Development

- ANSI/RESNET/ICC 301-2014 governs how energy ratings are performed
- Currently allows energy ratings on units in multifamily buildings UP to 3 stories
- No specific accommodations for multifamily units/systems





Concurrent ANSI Standard Development

Standards Development Timeline

- **2013**: EPA chairs MFWG to create MF Guidelines; published in 2014
- **2016-7**: RESNET MF Committee turns those into a Standard
- **2018**: ANSI 301-2019 has 3 rounds of public comment
- **Will allow energy ratings on units in any height building**

Standard Implementation Timeline

- **January 2019**: Published
- **July 2019**: Anticipated 'adoption' by RESNET
- **January 2020**: May be required for energy ratings (based on bldg. permit)



ES MFNC Implementation Timeline

- ✓ **Jan 2019:** MFNC webpages and program launch
- ✓ **Feb 2019:** Stakeholder webinar & RESNET sessions
- **Jan 2019 – Dec 2020:** Choose ESCH, MFHR, or MFNC
 - A building that complies with all MFNC requirements, regardless of building permit date, can be certified (ie. reported); can even switch from MFHR or ESCH
- **Jan 2019 – July 2019 (?):** ERI Path limited
 - Not yet available in all energy rating software
 - Need RESNET to approve ERI above 5 stories



ES MFNC Implementation Timeline (cont'd)

- **Jan 2021:** MFNC required for multifamily buildings with permit dates January 1, 2021 and later
- Cannot do ESCH / MFHR if permitted after
- No current sunset date established
 - If permitted before January 1, 2021, no time limit to complete under ESCH or MFHR



MFNC Partners & Participants

ES MFNC Partners & Participants



Builder/
Developer



Rater



Functional
Testing Agent



HVAC
Designer



ASHRAE Modeler
(ASHRAE Path)



Multifamily Oversight Orgs
Verification Oversight Org (ERI Path)
Multifamily Review Org (ASHRAE / Prescriptive Paths)



Audience Poll

Who do we have in the room?

Builder or Developer?

Utility?

Training Provider?

Software Developer?

ES MFNC Partners & Participants



**Builder/
Developer**



Rater



**Functional
Testing Agent**



**HVAC
Designer**



**ASHRAE Modeler
(ASHRAE Path)**



**Multifamily Oversight Orgs
Verification Oversight Org (ERI Path)**

Multifamily Review Org (ASHRAE / Prescriptive Paths)



ES MFNC Partners & Participants



Builder/
Developer



Rater



Functional
Testing Agent



HVAC
Designer



ASHRAE Modeler
(ASHRAE Path)



Multifamily Oversight Orgs
Verification Oversight Org (ERI Path)

Multifamily Review Org (ASHRAE / Prescriptive Paths)

ENERGY STAR MFNC Partners

Builders & Developers

Role & Expectations

- Responsible for Water Management System Requirements
- Either the Builder OR Developer must be a partner

Requirements

- Complete [online Partnership Agreement](#)
- View online orientation [video](#)





Modifications to Online Partnership Agreement – Coming Soon

Single Family Builders

- Modified orientation video

Multifamily Builders and Developers

- Select VOO/MRO in OPA

- Watch Builder/Developer orientation

ENERGY STAR MFNC Partners

Raters

Roles & Expectations

- Verify that all requirements have been met
 - Rater Design and Field Checklists
- Collect Documentation
 - HVAC Design Report
 - HVAC Functional Testing Checklist*
 - ASHRAE Path – Performance Path Calculator
 - ASHRAE/Prescriptive Paths – MF Workbook**

**Not required if completed by a credentialed contractor*

***Or alternative accepted by MRO*



ENERGY STAR MFNC Partners

Raters

Requirements



- a) Be a Certified Rater, Approved Inspector, or an equivalent designation as determined by a Verification Oversight Organization (VOO) or Multifamily Review Organization (MRO)
- b) Have attended and successfully completed an EPA-recognized training class
- c) Complete [online Partnership Agreement](#)



ENERGY STAR MFNC Partners

Raters Training

- Current ENERGY STAR Rater Partner:
 - MFNC Rater Training (similar format as current ESCH Rater training)
- Not yet a Partner:
 - ESCH & MFNC Rater Training



ENERGY STAR Multifamily New Construction Version 1/1.1

Rater Design Review Checklist



ENERGY STAR Multifamily New Construction Version 1/1.1

Rater Field Checklist



ENERGY STAR MFNC Partners

Raters

Training (continued)

- Approved Courses (18 RESNET PDHs):
<https://archive.resnet.us/pd/courses.aspx>
- **Jan-Dec 2019:** MFNC Rater Training is optional for current ENERGY STAR Rater Partners
- **Jan 2020:** To certify to MFNC in 2020, MFNC Rater Training certificate uploaded in MESA (My ENERGY STAR Account) or during Online Partnership Agreement



ENERGY STAR MFNC Participants

Functional Testing Agents

Roles & Expectations

- Complete section(s) of the MFNC HVAC Functional Testing Checklists

Requirements

- Verify and maintain the required credentials
 - H-QUITO credentialed contractor, commissioning credentials, or OEM representative
- Watch [online orientation](#) & be listed in the directory (unless a credentialed contractor)



ENERGY STAR MFNC Participants

HVAC Designer

Roles & Expectations

- Complete the MFNC HVAC Design Report and provide to the Rater

Requirements

- None



ENERGY STAR MFNC Participants

ASHRAE modelers

Role & Expectations

- Create ASHRAE 90.1 whole building energy models
 - Use Appendix G & the Simulation Guidelines
- Complete the Performance Path Calculator (Excel), at Design stage and As-Built



Requirements

- Watch [online orientation](#) & be listed in the directory



ENERGY STAR MFNC Participants

ASHRAE modelers



ASHRAE Modeler Directory

ENERGY STAR Multifamily New Construction

Individual Name	Organization	Email	Phone Number	City	State
Robert Salcido	Salcido Solutions	rob@salcidosolutions.com	303-641-7396	Louisville	CO
Mollie Olson	Capital Consultants, Inc.	molson@capital-consultantsinc.com	314-436-2315	Charlotte	NC



ENERGY STAR MFNC Participants

Multifamily Oversight Organizations

Verification Oversight Organization (VOO)

- ERI Path
- Provide Oversight similar to Certified Homes

Multifamily Review Organization (MRO)

- ASHRAE and Prescriptive Paths
- Provide Oversight similar to MFHR

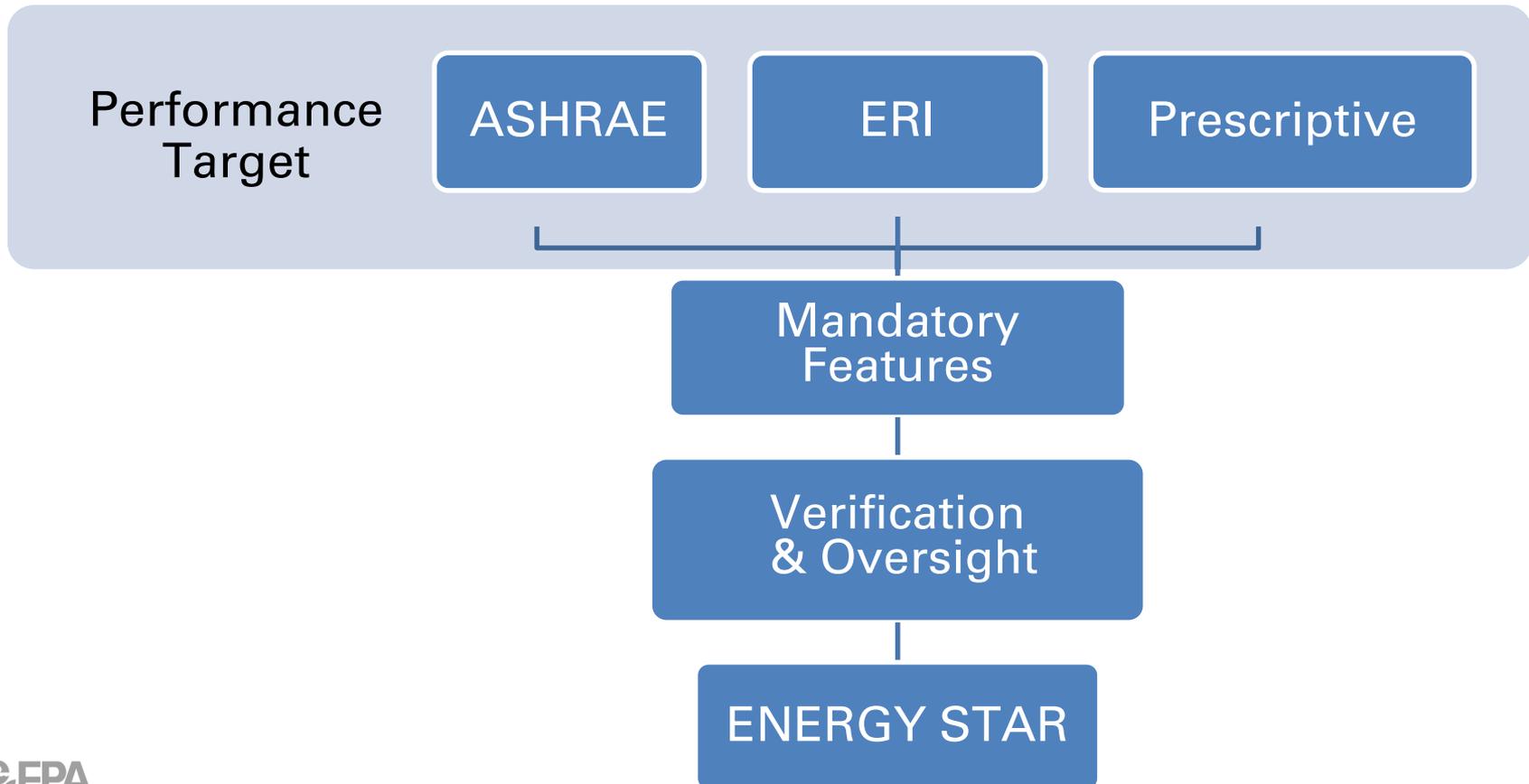




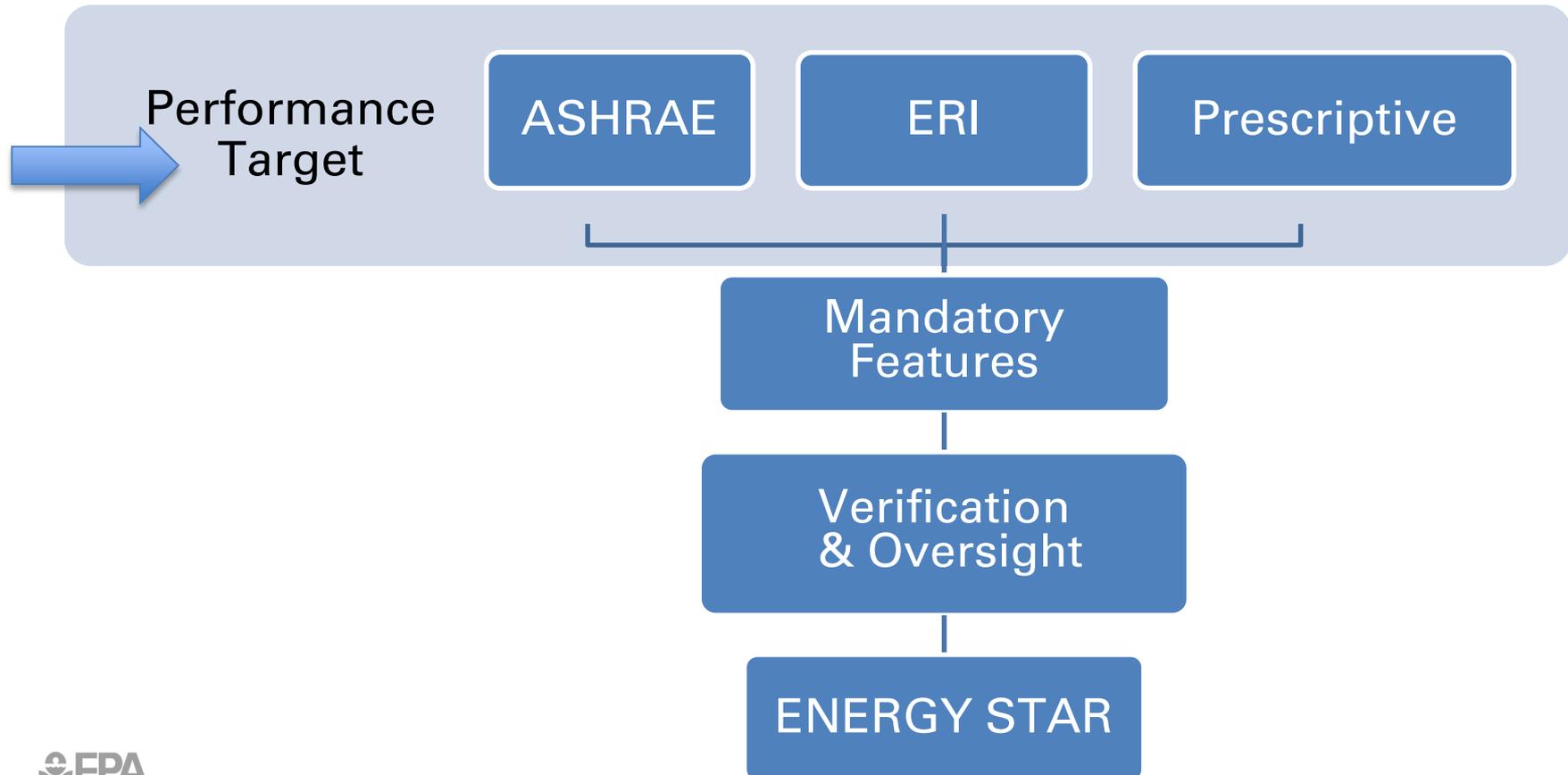
MFNC Certification Paths



Multifamily New Construction (MFNC) Requirements Overview



Multifamily New Construction (MFNC) Requirements Overview





ASHRAE Path



Whole-Building Modeled Energy Savings

- 15% above ASHRAE 90.1 (the year is based on the state commercial code)
- 10% above Title 24-2016/9 in California

What's Different from MFHR?

- Low-rise projects follow same modeling rules except have wood-framed baseline
- Removed Plenum/Garage Heating penalty



Energy Rating Index (ERI) Path



ENERGY STAR MF Reference Design

- MFNC Version “1” and “1.1” aligns w/ ESCH Version “3” and “3.1”
- Regional “1.2” for OR & WA
- Modeling 1-2 points less than ESCH
- MF Reference Design is not used for Townhomes; use Certified Homes

ERI Path for units in any height bldg, but < 6 until RESNET adopts ANSI 301-2019

Prescriptive common area measures



Prescriptive Path



- No energy modeling
- Available for all projects (except CA), even states that adopt 2018 IECC
- ENERGY STAR Multifamily Reference Design specifications is required in-unit and common areas
- Additional req'ts beyond ENERGY STAR Multifamily Reference Design (e.g. in-unit lighting power density, building level window-to-wall ratio)



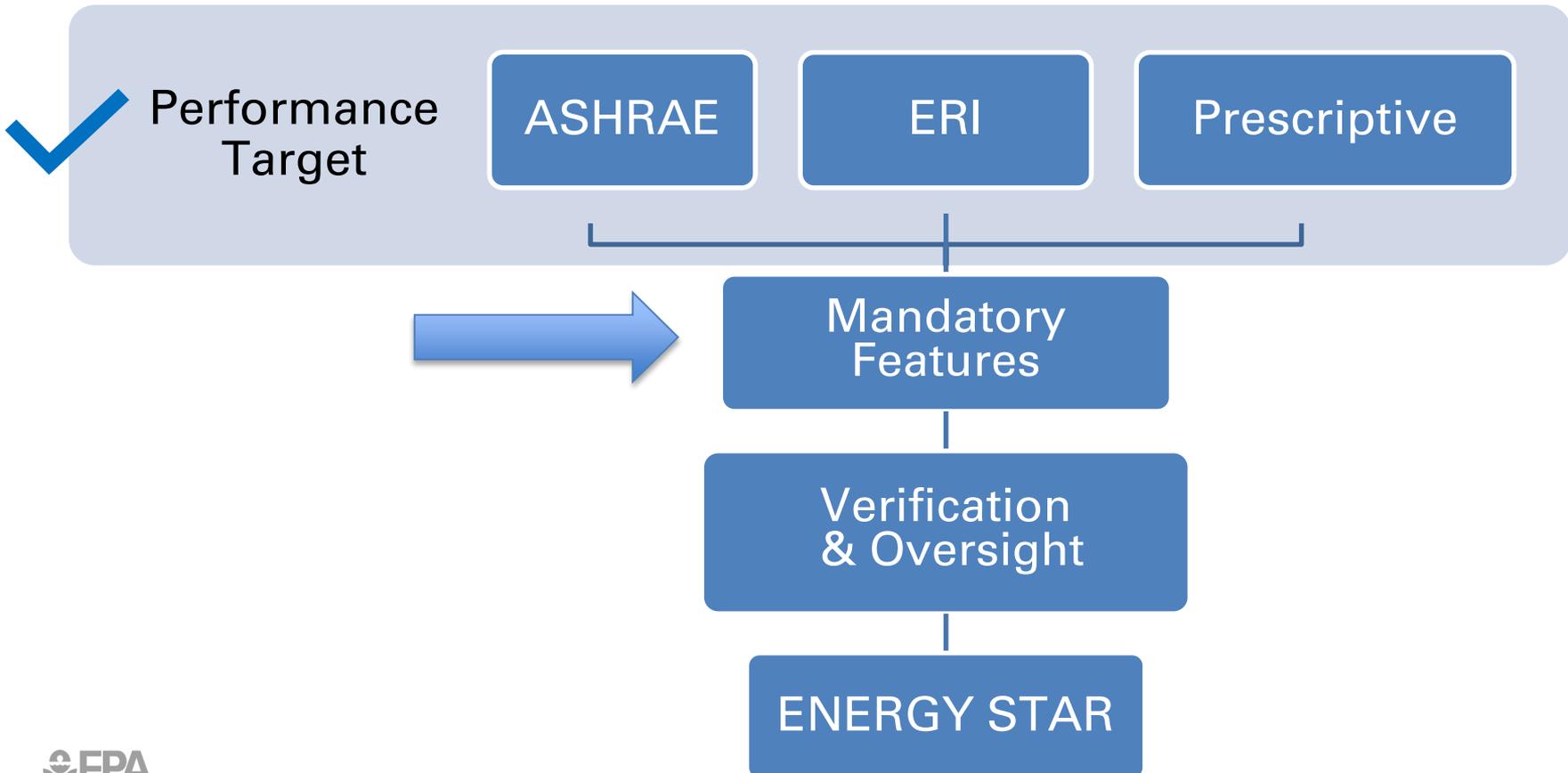
ENERGY STAR MFNC Certification Paths

Program Documents related to Certification Paths

- National Program Requirements
- ERI Target Procedure (ERI Path)
- Simulation Guidelines (ASHRAE Path)
- Performance Path Calculator (ASHRAE Path)

www.energystar.gov/mfnc

Multifamily New Construction (MFNC) Requirements Overview





ENERGY STAR MFNC Mandatory Features

Program Documents (PDF) with Mandatory Features

- Rater Design Review Checklist*
- Rater Field Checklist*
- HVAC Design Report
- HVAC Functional Testing Checklist
- Water Management System Requirements

*Multifamily Workbook (Excel)



Multifamily Workbook

Multifamily Workbook (Excel-based) offers:

- Spreadsheet versions of the two Rater Checklists
- Dwelling unit testing results spreadsheet
- Common area testing results spreadsheet
- Spreadsheets to help demonstrate compliance with envelope, DHW, lighting, and HVAC requirements
- BETA version online shows example

Used by MRO's in ASHRAE & Prescriptive Paths (replaces T&V Worksheets); Optional for ERI Path



Multifamily Workbook

	A	B	C	D	E			
1		<div style="border: 1px solid black; padding: 5px; background-color: #0056b3; color: white; text-align: center;"> Rater Design Checklist (Reset All) </div>	<div style="border: 1px solid black; padding: 5px; background-color: #f4a460; text-align: center; margin-bottom: 5px;"> Show all Footnotes </div> <div style="border: 1px solid black; padding: 5px; background-color: #f4a460; text-align: center;"> Hide all Footnotes </div>	<div style="border: 1px solid black; padding: 5px; background-color: #0070c0; color: white; text-align: center;"> SELECT PATHWAY (Reset to All Paths) </div>	<div style="border: 1px solid black; padding: 5px; background-color: #a6c9ec; text-align: center; margin-bottom: 5px;"> Prescriptive </div> <div style="border: 1px solid black; padding: 5px; background-color: #a6c9ec; text-align: center; margin-bottom: 5px;"> ASHRAE </div> <div style="border: 1px solid black; padding: 5px; background-color: #a6c9ec; text-align: center;"> ERI </div>	<div style="border: 1px solid black; padding: 5px; background-color: #a6c9ec; text-align: center; margin-bottom: 5px;"> Title 24: Dwelling Unit Models </div> <div style="border: 1px solid black; padding: 5px; background-color: #a6c9ec; text-align: center;"> Title 24: Whole Building Models </div>	<div style="border: 1px solid black; padding: 5px; background-color: #70ad47; color: white; text-align: center; margin-bottom: 5px;"> (Reset to All Available) </div> <div style="border: 1px solid black; padding: 5px; background-color: #70ad47; color: white; text-align: center; margin-bottom: 5px;"> Required Only </div> <div style="border: 1px solid black; padding: 5px; background-color: #70ad47; color: white; text-align: center;"> Optional Only </div>	<div style="border: 1px solid black; padding: 5px; background-color: #cfe2f3; text-align: center; font-size: 24px;"> ALL F </div>
3	Project Name: _____				Number of Units: _____			
4	Project Address: _____				City: _____			
6								
7	Rater Design Review Checklist ¹							
8					Must Correct	Rater ³ Verified		
9	1. Partnership Status							
12	1.1 Rater has verified that builder or developer is an ENERGY STAR partner using energystar.gov/partnerlocator Builder Name: _____ Developer Name: _____							



Multifamily Workbook

Rater Design Review Checklist ¹

	Must Correct	Rater ³ Verified
1. Partnership Status		
<div style="text-align: right; border: 1px solid black; padding: 2px; display: inline-block;">Hide Footnote(s)</div> <p>Footnote 1. This Checklist applies to all dwelling units, sleeping units, most common spaces ² on the property, and parking lots. This Checklist does not apply to commercial or retail spaces. This Checklist does not apply to common spaces that are located in buildings on the property without any dwelling or sleeping units. The term 'sleeping unit' refers to 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. Where the term 'dwelling unit' is used in this Checklist, the requirement is also required of 'sleeping' units. The term 'building' refers to a structure utilized or intended for supporting or sheltering occupancy for a residential purpose; a structure with no dwelling or sleeping units connected to a structure with dwelling or sleeping units by less than 10% of its exterior wall area is not to be included in the 'building'.</p> <p>Footnote 3. The term 'Rater' refers to the person completing the third-party inspections required for certification. This person shall: a) be a Certified Rater, Approved Inspector, or an equivalent designation as determined by a "Multifamily Oversight Organization" and, b) have attended and successfully completed an EPA-recognized training class. See energystar.gov/mftraining.</p> <p>1.1 Rater has verified that builder or developer is an ENERGY STAR partner using energystar.gov/partnerlocator</p>		



Multifamily Workbook

UNIT TYPES														
UNIT TYPE	BEDROOMS	BATHROOMS	AREA	ENCLOSURE AREA	# RETURNS	VENTILATION (CFM)	ASHRAE 62.2 - 2010	Ventilation > ASHRAE 62.2	KITCHEN VENTILATION	KITCHEN VOLUME	BATHROOM 1 VENTILATION	BATHROOM 2 VENTILATION	BATHROOM 3 VENTILATION	AC SIZE (Tons)
1BR1stEnd	1	1	700	2500	0	30	22	PASS	Continuous	ENTER VOLUME	Continuous	Intermittent	Intermittent	1
2BR1stInt	2	2	1500	3000	2	45	37.5	PASS	Intermittent	N/A	Continuous	Intermittent	Intermittent	2.5
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						

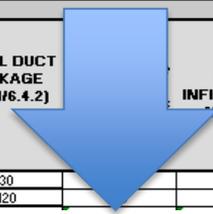
UNIT DETAILS				TESTING TARGETS								SAMPLING				
UNIT	UNIT TYPE	SQUARE FOOTAGE	ENCLOSURE AREA	TOTAL DUCT LEAKAGE (6.4.1/6.4.2)	Duct Leakage to Outdoors (Townhouses Only) (6.5)	UNIT INFILTRATION (4.10)	DWELLING UNIT VENTILATION (7.2)	KITCHEN VENTILATION (8.1)	BATH 1 VENTILATION (8.2)	BATH 2 VENTILATION (8.2)	BATH 3 VENTILATION (8.2)	SAMPLE SET ID	TESTING DATE	TOTAL DUCT LEAKAGE (6.4.1 / 6.4.2)	TEST (ROUGH-IN/FINAL)	
				Value	Pass/Fail											
101	1BR1stEnd	700	2500	30	40	750	22	VOLUME INTO UR	20	50	50	A		29	PASS	Rough-In
201	2BR1stInt	1500	3000	120	60	900	37.5	100	20	50	50			120	PASS	Final



Multifamily Workbook

UNIT TYPES							ASHRAE 62.2 - 2010	Ventilation > ASHRAE 62.2	KITCHEN VENTILATION	KITCHEN VOLUME	BATHROOM 1 VENTILATION	BATHROOM 2 VENTILATION	BATHROOM 3 VENTILATION	AC SIZE (Tops)
UNIT TYPE	BEDROOMS	BATHROOMS	AREA	ENCLOSURE AREA	# RETURNS	VENTILATION (CFM)								
1BR1stEnd	1	1	700	2500	0	30	22	PASS	Continuous	ENTER VOLUME	Continuous	Intermittent	Intermittent	1
2BR1stInt	2	2	1500	3000	2	45	37.5	PASS	Intermittent	N/A	Continuous	Intermittent	Intermittent	2.5
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						

UNIT DETAILS				TESTING TARGETS								SAMPLING		TOTAL DUCT LEAKAGE (6.4.1 / 6.4.2)		TEST (ROUGH-IN/FINAL)
UNIT	UNIT TYPE	SQUARE FOOTAGE	ENCLOSURE AREA	TOTAL DUCT LEAKAGE (6.4.1/6.4.2)	UNIT INFILTRATION (4.10)	DWELLING UNIT VENTILATION (7.2)	KITCHEN VENTILATION (8.1)	BATH 1 VENTILATION (8.2)	BATH 2 VENTILATION (8.2)	BATH 3 VENTILATION (8.2)	SAMPLE SET ID	TESTING DATE	Value	Pass/Fail		
101	1BR1stEnd	700	2500	30	750	22	VOLUME INTO UR	20	50	50	A		29	PASS	Rough-In	
201	2BR1stInt	1500	3000	120	900	37.5	100	20	50	50			120	PASS	Final	



UNIT TYPES						
UNIT TYPE	BEDROOMS	BATHROOMS	AREA	ENCLOSURE AREA	# RETURNS	VENTILATION N (CFM)
1BR1stEnd	1	1	700	2500	0	30
2BR1stInt	2	2	1500	3000	2	45



Multifamily Workbook

UNIT TYPES														
UNIT TYPE	BEDROOMS	BATHROOMS	AREA	ENCLOSURE AREA	# RETURNS	VENTILATION (CFM)	ASHRAE 62.2 - 2010	Ventilation > ASHRAE 62.2	KITCHEN VENTILATION	KITCHEN VOLUME	BATHROOM 1 VENTILATION	BATHROOM 2 VENTILATION	BATHROOM 3 VENTILATION	AC SIZE (Tons)
1BR1stEnd	1	1	700	2500	0	30	22	PASS	Continuous	ENTER VOLUME	Continuous	Intermittent	Intermittent	1
2BR1stInt	2	2	1500	3000	2	45	37.5	PASS	Intermittent	N/A	Continuous	Intermittent	Intermittent	2.5
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						
							7.5	FAIL						

UNIT DETAILS				TESTING TARGETS								SAMPLING				
UNIT	UNIT TYPE	SQUARE FOOTAGE	ENCLOSURE AREA	TOTAL DUCT LEAKAGE (6.4.1/6.4.2)	Duct Leakage to Outdoors (Townhouses Only) (6.5)	UNIT INFILTRATION (4.10)	DWELLING UNIT VENTILATION (7.2)	KITCHEN VENTILATION (8.1)	BATH 1 VENTILATION (8.2)	BATH 2 VENTILATION (8.2)	BATH 3 VENTILATION (8.2)	SAMPLE SET ID	TESTING DATE	TOTAL DUCT LEAKAGE (6.4.1 / 6.4.2)	TEST (ROUGH-IN/FINAL)	
				Value	Pass/Fail											
101	1BR1stEnd	700	2500	30	40	750	22	VOLUME INTO UNIT	20	50	50	A		29	PASS	Rough-In
201	2BR1stInt	1500	3000	120	60	900	37.5	100	20	50	50			120	PASS	Final



UNIT DETAILS				TESTING TARGETS				
UNIT	UNIT TYPE	SQUARE FOOTAGE	ENCLOSURE AREA	TOTAL DUCT LEAKAGE (6.4.1/6.4.2)	Duct Leakage to Outdoors (Townhouses Only) (6.5)	UNIT INFILTRATION (4.10)	DWELLING UNIT VENTILATION (7.2)	KITCHEN VENTILATION (8.1)
101	1BR1stEnd	700	2500	30	40	750	22	VOLUME INTO UNIT
201	2BR1stInt	1500	3000	120	60	900	37.5	100



MFNC Mandatory Requirements



MFNC Rater Design Review Checklist

What's different from Certified Homes or MFHR?

- Two separate PDF checklists, also available in Excel Partnership Status (Section 1)

High-Performance Fenestration & Insulation (Sect 2, 3)

- Fenestration & Insulation for dwelling units & common spaces (based on commercial code)

Review of HVAC Design Report (Section 4)

- Collect and review 10 items

Additional Construction Document Review (Section 5)

- Optional, covers air-sealing, and other new items



MFNC Rater Field Checklist

What's different from Certified Homes or MFHR?

- Two separate PDF checklists, also available in Excel
- Rater verifies; Builder & LP can verify some items

Thermal Enclosure (Sections 1-4)

- Minimum insulation req'ts for projected balconies, elevated podiums, heated plenums, heated garages
- Fully-aligned Air Barriers & Reduced Thermal Bridging
- Compartmentalization test requirement: 0.30 cfm50/ft² of enclosure area (~6 ACH50 per unit)



MFNC Rater Field Checklist

What's different from Certified Homes or MFHR?

HVAC System & Duct Quality Installation (Section 5-10)

- Bedrooms \geq 150 cfm, pressure balanced (-5 to 5 Pa)
- Added Central Exhaust Duct Leakage test and HVAC Equipment Control & Hydronic Distribution req'ts (similar to code/MFHR requirements)
- DLTO still required for Townhomes; Total DL for others (exempt if in conditioned space with less than 10ft supply)
- Lower leakage allowance if returns are NOT ducted



MFNC Rater Field Checklists (continued)

What's different from Certified Homes or MFHR?

NEW Sections 11-14

- Domestic Hot Water req'ts: heat traps on in-unit storage, inspect R-3 insulation on piping, Rater-measured HW temperature at faucets/showerheads
- Common Area Lighting Power Density Maximums (W/ft^2), efficient fixtures/bulbs (Tier II), automatic lighting controls, but no minimum footcandle req't
- Whole Building Energy Data Acquisition Strategy (buildings $> 50,000 ft^2$): Lease agreements, utility aggregated data, energy monitors



MFNC HVAC Design Report

What's different from Certified Homes or MFHR?

- HVAC design report per building, not per system
- Design common areas to ASHRAE 62.1 & report common area heating & cooling loads and equipment selection
- Room-by-room load calcs required for Townhomes, but unit-level for other MF
- Verify inputs/ranges on dwelling unit load calcs (ie. internal gains, infiltration)
- HVAC items verified by Rater are on Design Report



MFNC HVAC “Functional Testing” Checklist

What’s different from Certified Homes or MFHR?

- Not ‘Commissioning’it’s ‘Functional Testing’
- FT Agent can be a H-QUITO Credentialed Contractor, OEM representative, or have a commissioning credential (ie. ASHRAE BCxP, AEE CBCP, NEBB BSC or CxPP)
- **New** Section 5 covers ALL dwelling unit AND common systems, but Rater can verify these items
- **New** Sections 6-9 for central VRF heat pumps, boilers, chillers, pumps (Installing Contractor cannot verify these)

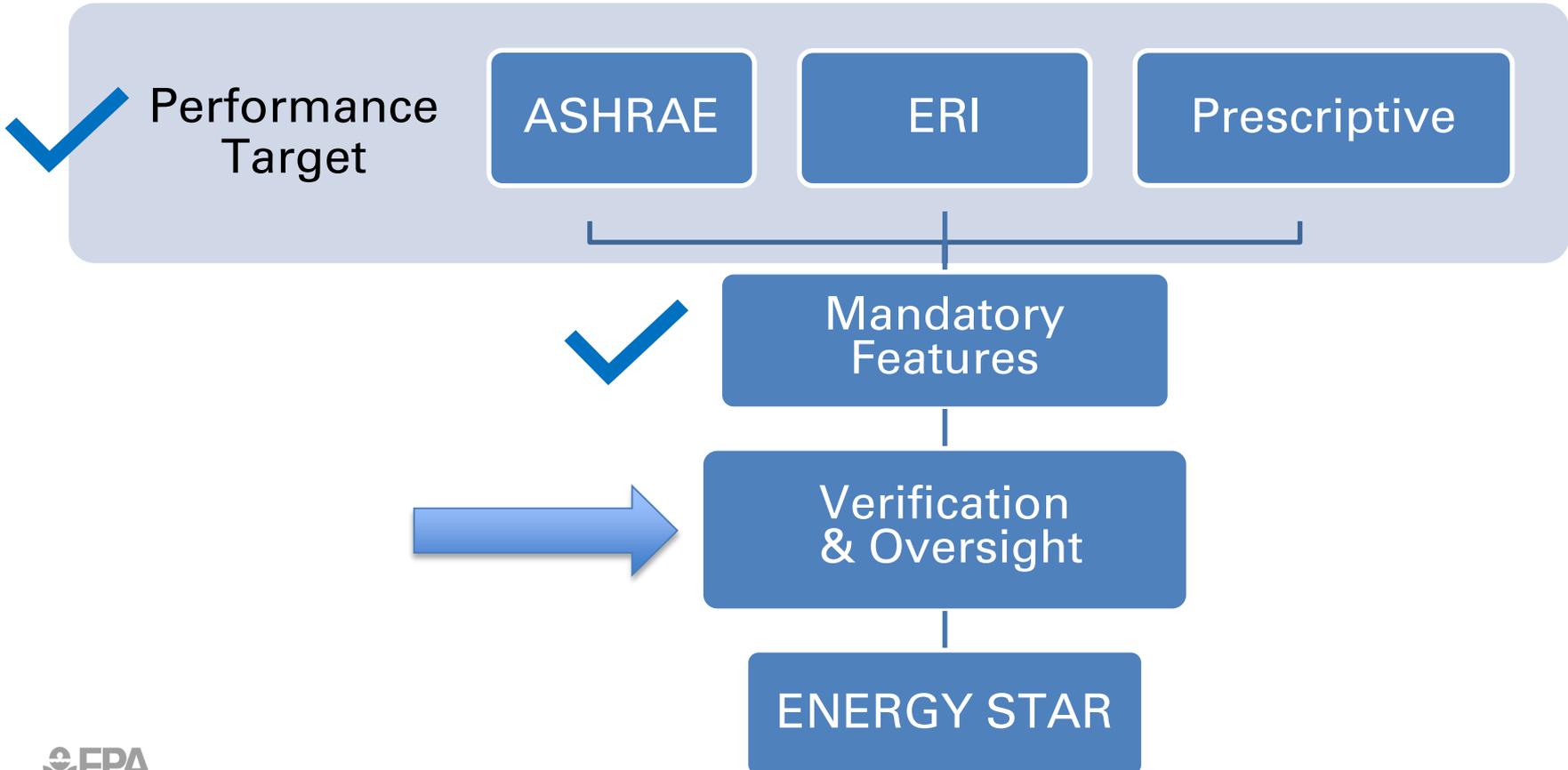


MFNC Water Management System Req'ts

What's different from Certified Homes or MFHR?

- Kept the Water Management System Builder Requirements from Certified Homes program
 - Responsibility of the Builder/Developer, not Rater
 - Applies to the building/project
 - Exemption for capillary break under open or ventilated garage slabs
 - New for MFHR projects

Multifamily New Construction (MFNC) Requirements Overview





Multifamily Oversight Organizations

Different Oversight Organizations for different Paths

Verification Oversight Organization (VOO)

- RESNET
- ERI Path
- Submittal at Final



Similar to Certified Homes

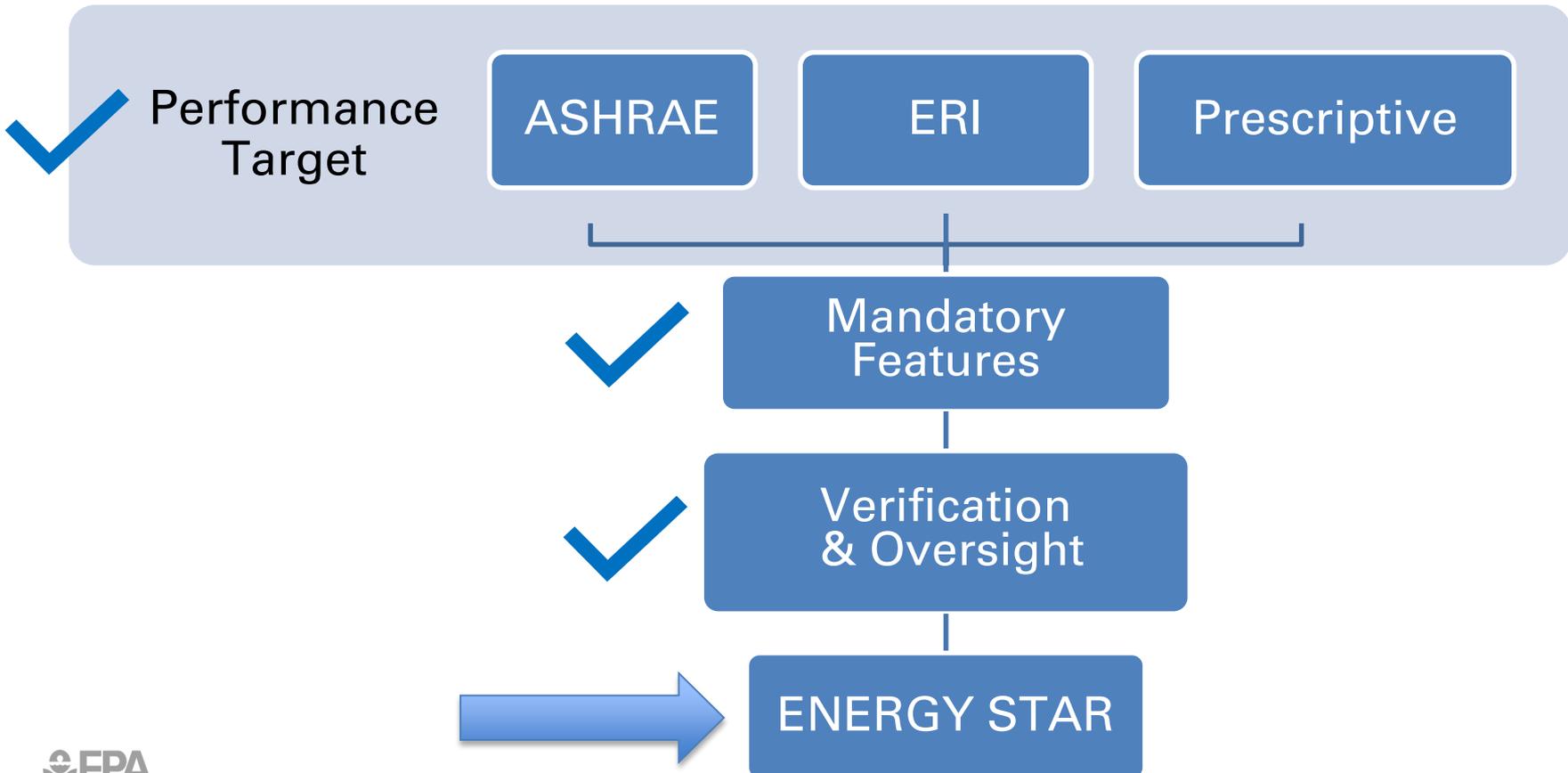
Multifamily Review Organization (MRO)

- HIRL, Karpman Consulting, TRC
- ASHRAE and Prescriptive Paths
- Proposed Design & As-Built Submittals



Similar to MFHR

Multifamily New Construction (MFNC) Requirements Overview



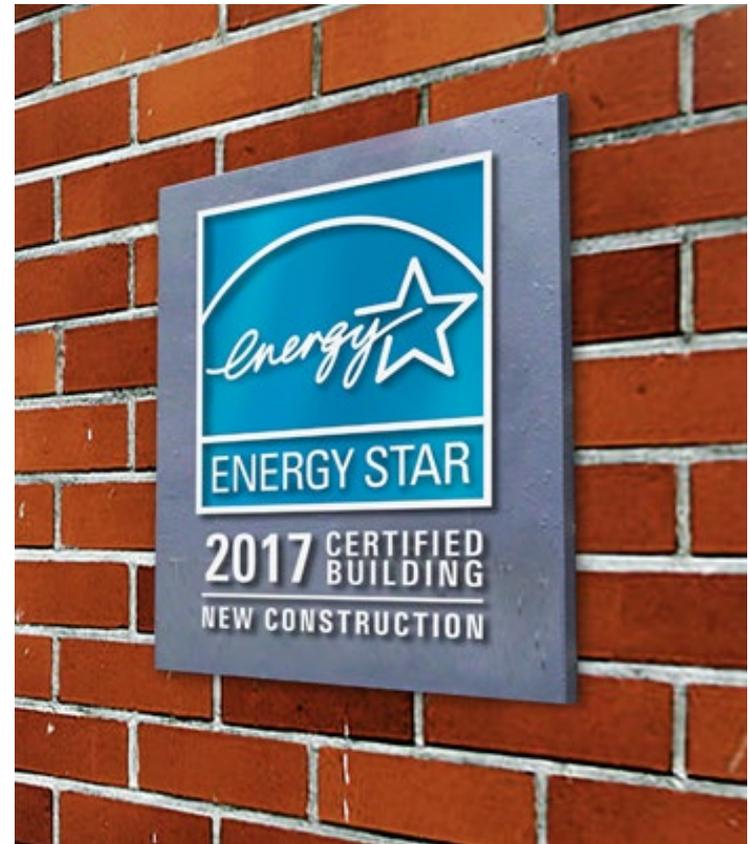


Labeling (required)



	CERTIFIED HOME
ENERGY STAR	
Address:	<input type="text"/>
Built by:	<input type="text"/>
Verified by:	<input type="text"/>
Date:	<input type="text"/>
Program/Version number:	<input type="text"/>
Optional information:	<input type="text"/>
<small>This home or apartment has been independently verified to meet EPA's strict guidelines for energy efficiency. Learn more at energystar.gov</small>	

Labeling (optional)





Putting it all together....



MFNC ERI Path Overview

Enter

Builder/Developer and Rater become ES Partners

FT Agent takes online orientation (if needed)

Design

Include Mandatory Features in design

Complete HVAC Design Report & Rater Design Checklist

Conduct energy modeling to beat the ERI Target

Build

Build to design
Raters inspect & test

Complete Rater Field Checklist, HVAC Functional Testing Checklist & update energy ratings

Submit to Provider

Earn





MFNC ASHRAE Path Overview

Enter

Builder/Developer and Rater become ES Partners
FT Agent & **modeler** take online orientation (if needed)

Design

Include Mandatory Features in design
Complete HVAC Design Report & Rater Design Checklist
90.1 energy model achieves 15%
Proposed Design Submittal (to MRO)

Build

Build to design
Raters inspect & test
Complete Rater Field Checklist, HVAC Functional Testing Checklist & **update energy model**
As-Built Submittal (to MRO)

Earn





MFNC Prescriptive Path Overview

Enter

Builder/Developer and Rater become ES Partners

FT Agent & **modeler** take online orientation (if needed)

Design

Include Mandatory Features & **prescriptive req's** in design

Complete HVAC Design Report & Rater Design Checklist

Proposed Design Submittal (to MRO)

Build

Build to design
Raters inspect & test

Complete Rater Field Checklist, HVAC Functional Testing Checklist

As-Built Submittal (to MRO)

Earn





Submittals to MRO (ASHRAE & Prescriptive)

Design

- Prescriptive & ASHRAE
 - Rater Design Checklist
 - HVAC Design Report
 - MF Workbook
 - Construction documents
- ASHRAE only
 - Performance Path Calculator
 - Modeling files

As-Built

- Prescriptive & ASHRAE
 - Rater Field Checklist
 - HVAC Functional Testing Checklist
 - MF Workbook
 - Construction documents
 - Photo documentation
- ASHRAE only
 - Performance Path Calculator
 - Modeling files



ENERGY STAR MFNC and other Programs

Enterprise Green Communities, 2015 NGBS, LEED v4 Homes, and LEED v4 Multifamily Mid-Rise

- Will allow MFNC in lieu of Certified Homes or MFHR

PHIUS 2018

- Will likely permit MFNC in lieu of Certified Homes

DOE Zero Energy Ready Homes & EPA Indoor airPLUS

- Still evaluating if/when they can expand their building eligibility to match MFNC



ENERGY STAR MFNC web pages

ENERGY STAR RESIDENTIAL NEW CONSTRUCTION PROGRAM REQUIREMENTS

SINGLE FAMILY

MULTIFAMILY

MANUFACTURED

UNDERGOING GUT REHAB

PROGRAM VERSIONS AT A GLANCE

STEP 1: SELECT A PATH

- ERI and Prescriptive
- ASHRAE / Title 24

STEP 2:

Select State or Territory



ELIGIBILITY

These requirements apply to most multifamily buildings. See [flow chart](#) (PDF, 85 KB) for the specific multifamily projects that are eligible. Multifamily projects permitted prior to January 1, 2021, may continue to certify through the [MFHR](#) or [Certified Homes program](#), based on the eligibility requirements of those programs.

PROGRAM REQUIREMENTS

National Program Requirements

[MFNC National Program Requirements Version 1/1.1/OR-WA 1.2](#) (PDF, 490 KB)



ENERGY STAR MFNC web pages



Mandatory Measures

- [MFNC Rater Design Review Checklist \(PDF, 523 KB\)](#)
- [MFNC Rater Field Checklist \(PDF, 736 KB\)](#)
- [MFNC HVAC Design Report \(PDF, 415 KB\)](#)
- [MFNC HVAC Functional Testing Checklist \(PDF, 407 KB\)](#)
- [MFNC Water Management System Requirements \(PDF, 143 KB\)](#)

IMPLEMENTATION TIMELINE

To determine the program Version that a multifamily building is required to be certified under, identify the location and permit date of the building below. Note that the National Version 1.1 program requirements are being implemented in states that have adopted the residential 2012, 2015, or 2018 IECC, or an equivalent code. Note, as well, that regional program requirements, and associated implementation timelines, have been developed for buildings in CA, OR, and WA.

State / Territory	Buildings Permitted On or After This Date ¹ Must Meet the Adjacent Version	Multifamily New Construction Program Version
AL, AK, AZ, AR, CO, GA, GU, HI, IN, ID, KS, KY, LA, ME, MS, MO, NE, NH, NM, NMI, NC, ND, OH, OK, PA, PR, SC, SD, TN, USVI, UT, VA, WV, WI, WY	01-01-2021	National Version 1
CA	01-01-2021	California Version 1.2

SUPPORTING DOCUMENTS

Coming Soon!

Testing & Verification

Multifamily Workbook

Photo Documentation

Photo Documentation Guidance

Photo Documentation Template



ENERGY STAR MFNC web pages

SINGLE FAMILY

MULTIFAMILY

MANUFACTURED

UNDERGOING GUT REHAB

PROGRAM VERSIONS AT A GLANCE

STEP 1: SELECT A PATH

- ERI and Prescriptive
- ASHRAE / Title 24

STEP 2: To see county design temperatures, select your state or territory.

Select State or Territory



ELIGIBILITY

These requirements apply to most multifamily buildings. See [flow chart](#) (PDF, 85 KB) for the specific multifamily projects that are eligible. Multifamily projects permitted prior to January 1, 2021, may continue to certify through the [MFHR](#) or [Certified Homes program](#), based on the eligibility requirements of those programs.

PERFORMANCE TARGETS

For the ASHRAE Path, determine the [commercial code in effect in your state](#) and then choose from the Performance Target options in the table below. Projects in states that have adopted as the commercial code the 2012 IECC, 2015 IECC, 2018 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% better than the energy code under which the building is permitted, unless choosing one of the equivalent options in the table below. All other projects must meet the national requirement of 15% over ASHRAE 90.1-2007.

PROGRAM REQUIREMENTS

National Program Requirements

[MFNC National Program Requirements Version 1/1.1/OR-WA 1.2](#) (PDF, 490 KB)

Regional Program Requirements

[MFNC California Program Requirements Version 1.2](#) (PDF, 387 KB)



ENERGY STAR MFNC web pages

Performance Target Options: Savings (%) above varying ASHRAE 90.1 Baselines				
State Code	ASHRAE 90.1-2007	ASHRAE 90.1-2010	ASHRAE 90.1-2013	ASHRAE 90.1-2016
2009 IECC	15% ¹	NA	NA	NA
2012 IECC	20% ²	15% ¹	NA	NA
2015 IECC	25% ²	20% ²	15% ³	NA
2018 IECC	NA	NA	NA	15% ³

1. Appendix G from the referenced ASHRAE Standard or from ASHRAE 90.1-2016 may be used.
2. These Performance Target options may not be used for projects using Appendix G from ASHRAE 90.1-2016.
3. Appendix G from ASHRAE 90.1-2016 must be used.

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 [Status of State Energy Code Adoption Web](#) page.

Modeling options: To reduce the burden of applying two different codes to a given project, projects 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%

Mandatory Measures

[MFNC Rater Design Review Checklist](#) (PDF, 523 KB)

[MFNC Rater Field Checklist](#) (PDF, 736 KB)

[MFNC HVAC Design Report](#) (PDF, 415 KB)

[MFNC HVAC Functional Testing Checklist](#) (PDF, 407 KB)

[MFNC Water Management System Requirements](#) (PDF, 143 KB)

SUPPORTING DOCUMENTS

Coming Soon!

ASHRAE

[Performance Path Calculator](#)

[Performance Path Calculator_AppG2016](#)

[Simulation Guidelines](#)

Testing & Verification

[Multifamily Workbook](#)

[Photo Documentation](#)



ENERGY STAR Residential NC website

Join ENERGY STAR | Products | Residential New Construction | Buildings & Plants | Utilities/EEPS | Home Improvement

Residential New Construction Partner Resources

Share the 'Better is better' Video

Use the videos and other marketing resources that describe why ENERGY STAR certified homes are built better

[FIND MARKETING RESOURCES →](#)

1 2 3 4

CERTIFIED NEW HOME

ENERGY STAR

Address: _____

Build by: _____

Verified by: _____

Date: _____

ENERGY STAR for Homes Verifier

(National Information)

This home has been independently certified to meet ENERGY STAR's strict criteria for energy efficiency. For more information, visit [www.energystar.gov](#)

POLICY CHANGES & CLARIFICATIONS

EPA revises program requirements in residential to partner questions and evolving standards.

- Sept. 1, 2018: Current ENERGY STAR Certified Homes Policy Record (PDF, 1.3 M)
- Sept. 1, 2018: Archive ENERGY STAR Certified Homes Policy Record (PDF, 2.6 M)

[See more >](#)

PROGRAM REQUIREMENTS

Find the most recent residential homes program requirements.

WORKING WITH ENERGY STAR

Learn the benefits of working with ENERGY STAR.

MARKETING RESOURCES

Help educate homebuyers about the value of ENERGY STAR Homes.

MY ENERGY STAR ACCOUNT (MESA)

View and manage information about your organization's ENERGY STAR participation and contacts; access all of your password-protected tools or resources.

My ENERGY STAR Account

username _____

password _____

EDUCATIONAL RESOURCES

PARTNER LOCATOR

HOME BUYERS INFORMATION



Q&A Session Tomorrow

ENERGY STAR Multifamily New Construction Program: Q&A

Wednesday, February 27, 2019 - 8:30 AM-10:00
AM, Bayside A

Presenters: Gayathri Vijayakumar and Rebecca
Hudson



Wrap-up and Questions

MFNC requirements: www.energystar.gov/mfnc

MFNC program available now! ERI limited to 5 stories and less until RESNET confirms

MFNC required if permitted on or after 1/1/2021

MFNC Rater Training available in 2019 but not required until January 2020

Contact energystarhomes@energystar.gov with any questions, for webinar recordings, or to be added to the stakeholder list for MF updates