



On the Way: Indoor airPLUS Version 2

What PHIUS Builders Need to Know

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Where IAP
Version 1 (REV. 04)
Stands

About Indoor airPLUS

The Indoor airPLUS Program integrates the requirements of ENERGY STAR Certified Homes or Multifamily New Construction (up to 5 stories) as a prerequisite.

The Construction Specifications, Policy Record, and other program documents can be found at www.epa.gov/indoorairplus/indoor-airplus-program-documents.

Intermediate changes can be found in the Policy Record.



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Indoor airPLUS Program Documents

Indoor airPLUS continues to update many of its program documents based on stakeholder feedback, revised industry standards, and evolving best practices in building science and home performance. The latest Indoor airPLUS Construction Specifications and companion guidance including the most current program Policy Record can be found below.

Indoor airPLUS Version 1 (Rev. 04) Construction Specifications (PDF) (18 pp, 1 MB)

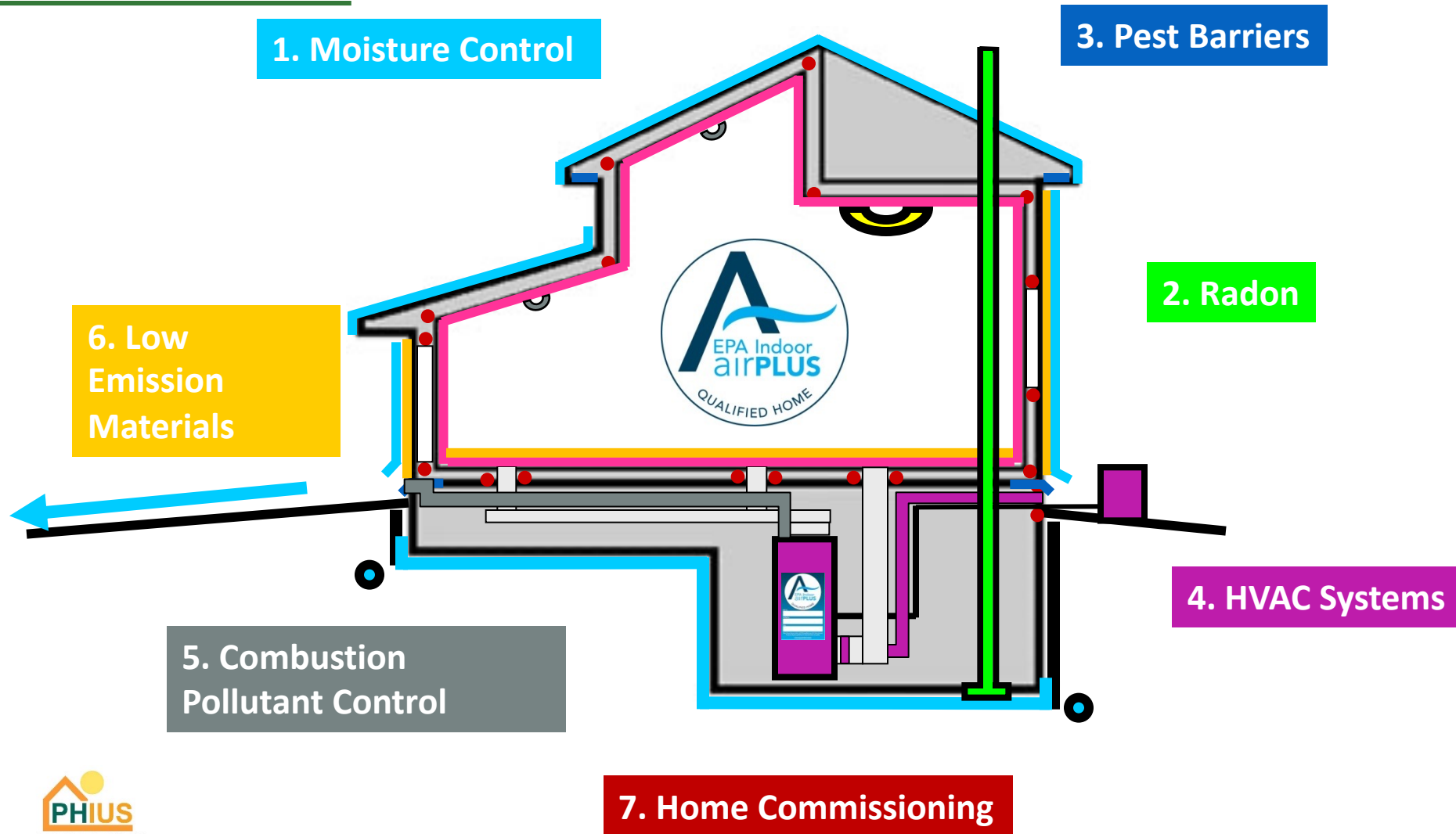
This document contains the revised Indoor airPLUS Version 1 (Rev. 04) Construction Specifications and verification checklist, as well as instructions for building and verifying Indoor airPLUS homes. Homes permitted starting 05/01/2018 are required to use Revision 4 of the Construction Specifications for qualification. For homes permitted before 05/01/2018, partners can use either Revision 3 or Revision 4 if desired. The Rater may define "permit date" as either the date that the permit was issued or the date of the contract on the home.



Indoor Air Quality (IAQ)

Indoor airPLUS Requirements

Organized into 7 Sections



Upgrades to IAP Version 2

IAP Version 2 Upgrades



Note that Indoor airPLUS Version 2 is under construction.

- **Anticipated specifications for public comment Fall 2020**

Changes are intended to “raise the bar” for some requirements.

And to borrow a phrase from ENERGY STAR Revision 10, to

Clarify
Simplify
Improve

General Changes

V2 will include specifications for both IAP-NC (New Construction) and IAP-X (Existing Homes).

V2 proposes an updated Home Certification Organization structure in harmony with other EPA labels and revised requirements for Quality Assurance.

General Changes

- Multifamily buildings up to 5 stories are eligible
 - ENERGY STAR MFNC is a pathway for buildings up to 5 stories
 - Buildings 6 stories and above are being considered with high rise appropriate specifications for:
 - Ventilation
 - Dehumidification
 - Compartmentalization
 - Moisture management (high rise facades, curtain walls, roof drainage, etc.)

IAP-NC & IAP-X

- Similar structures
- Two different checklists
- Different verification processes
- Existing buildings are very different from new buildings



The topics covered by this presentation are for NC. (New Construction)

General Changes

- Standards referenced Referenced standards will be updated
- Some *Requirements* and *Exceptions* will be modified
- Some *Advisories* will be rolled into *Requirements*
- For IAP-NC, ENERGY STAR requirements still need to be completed. However, V2 will spell them out more explicitly, rather than using summaries and references.

1. Moisture

Dehumidification:

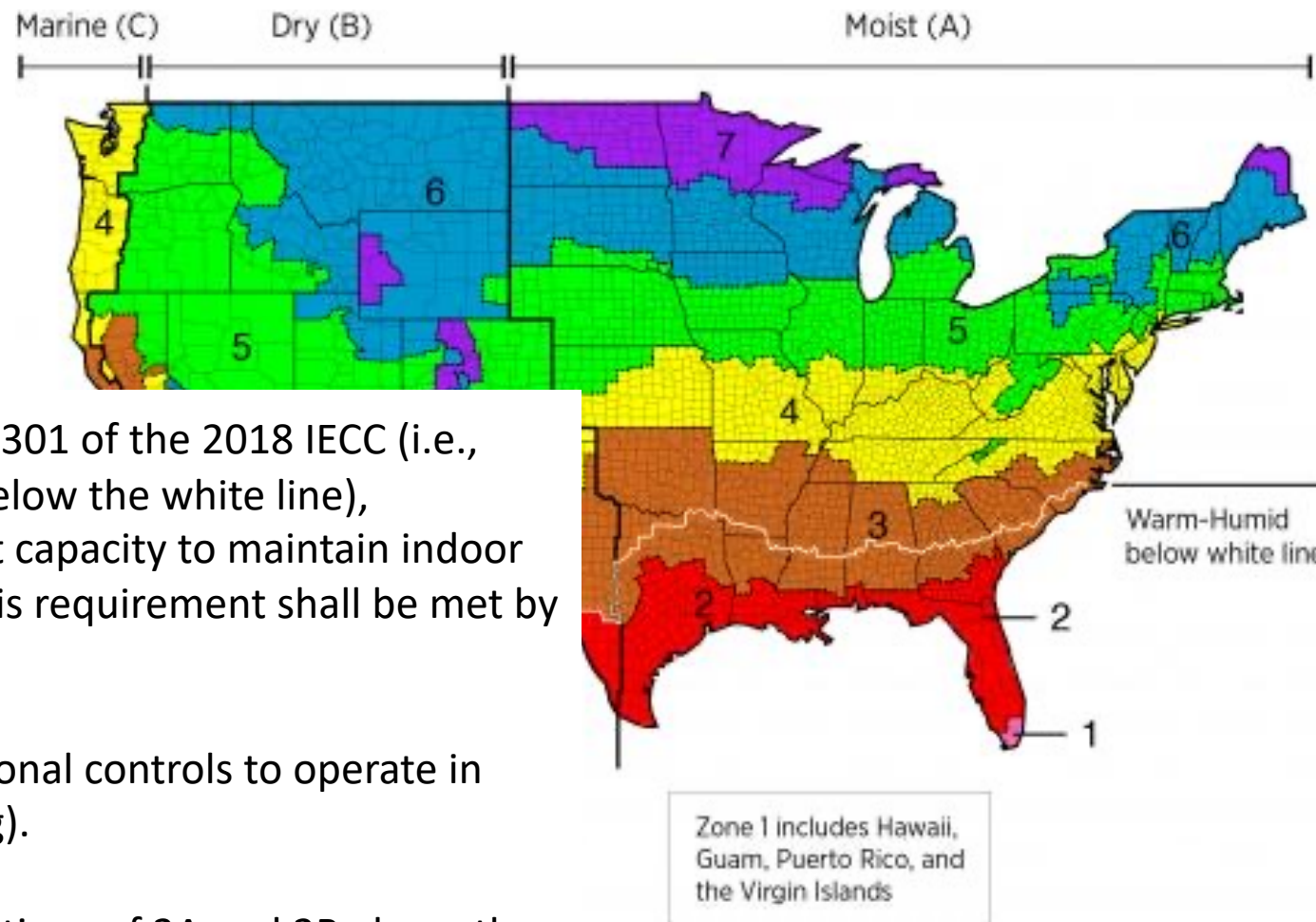
In "Warm-Humid" climates as defined by Section 301 of the 2018 IECC (i.e., Climate Zone 1 and portions of Zones 2 and 3A below the white line), equipment shall be installed with sufficient latent capacity to maintain indoor relative humidity (RH) at or below 60 percent. This requirement shall be met by either:

Additional dehumidification system(s), **OR**

A central HVAC system equipped with additional controls to operate in dehumidification mode (i.e., without cooling).

Exception: Climate Zones 4-8 , 3B, 3C and the portions of 3A and 2B above the white line as shown by 2018 IECC Figure 301.1.

Where should mechanical dehumidification be required?
How have you been addressing dehumidification?



2. Radon

- Currently reference ANSI/AARST CCAH.
 - This standard is being split and EPA is still considering possible full compliance with the passive standard. We will still recommend the active systems.
 - RRNC is for passive systems.
- EPA is also considering a testing requirement.

AARST – American Association of Radon Scientists and Technologists

ANSI – American National Standards Institute

CAAH – Reducing Radon in New Construction

CC 1000 – Soil Gas Control Systems in New Construction of Buildings



3. Pest Barriers

- Minimal changes to this section.
- V2 may propose a required pest management policy for MFNC projects including guidance for residents on pesticide use, housekeeping, and pest reporting.

4. HVAC Systems

- HVAC systems need to compliment ENERGY STAR Version 3 requirements appreciating that IAP is focused on indoor air quality and not energy efficiency specifications
- System must be sized to include more rigorous filtration
- Specifications for filtration will likely move to MERV 11 or 13

Have you addressed filtration in low load homes with mini splits?

HVAC Systems – “Every breath you take”

- A vented clothes dryer is an exhaust fan.
- 1 cfm out = 1 cfm in
- Where does the air needed to dry the clothes come from?



Should makeup air be required for dryers?
What about range hoods?

5. Combustion Pollutant Control

- EPA is considering a requirement for low level CO alarms

Have you installed low level CO alarms in your homes?

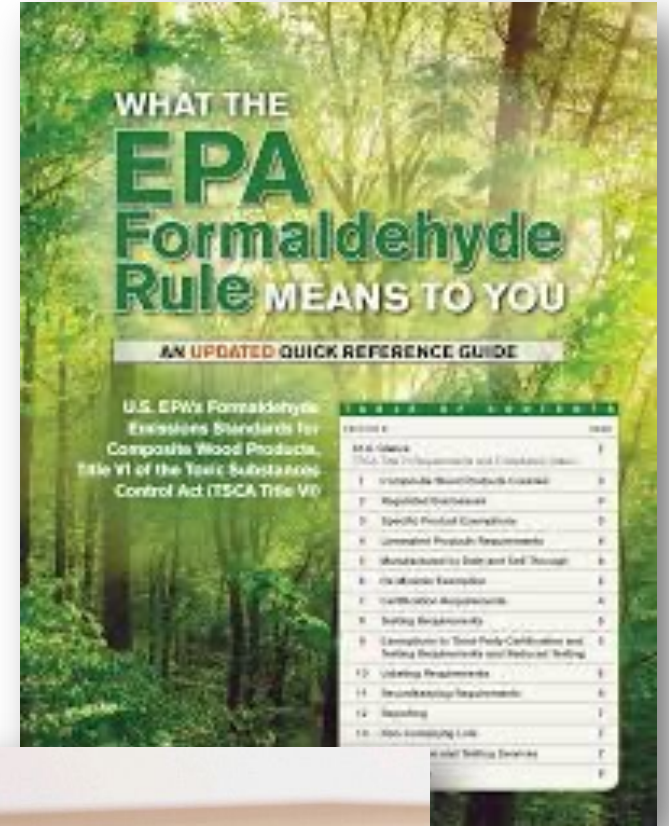
6. Low Emissions Materials

As of March 22, 2019 composite wood products MUST be labeled as Toxic Substance Control Act (TSCA) Title VI compliant.

Three composite wood products regulated under the final rule:

- Hardwood plywood
- Medium density fiberboard (MDF which includes thin MDF)
- Particleboard

Identical to the CARB ATCM Phase II emission standards with few differences.



IAP Version 2 Upgrades

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Marketing and Technical Resources

- Partner logos
- Co-brandable brochures
- 100% Commitment Opportunity
- Construction Specifications
- DOE Building America Solution Center



Sales and Marketing Resources: <https://www.epa.gov/indoorairplus/indoor-airplus-sales-and-marketing-resources>.

Partner logos and co-brandable resources in your [My ENERGY STAR Account \(MESA\)](#).

Building America Solution Center: <https://basc.pnnl.gov/checklists/epa-indoor-airplus>

Indoor airPLUS Leader Award Winners

- Thrive Home Builders, Builder Leader of the Year
- Energy Inspectors, Rater Leader of the Year
- C&B Custom Homes
- Charis Homes
- Fulton Homes
- Mandalay Homes
- Maracay Homes
- E3 Energy
- JKP Energy Inspections
- Steven Winter Associates





Indoor airPLUS

A new opportunity for leading builders to create better environments inside and out.

Learn more at:
www.epa.gov/indoorairplus

OR contact the Indoor airPLUS Team at:
indoor_airPLUS@epa.gov



Indoor Air Quality (IAQ)

