

# DOE Zero Energy Ready Home

## Highlights of Rev.07 Updates to the DOE ZERH National Program Requirements

The DOE Zero Energy Ready Home National Program Requirements are being updated to Rev.07 in May 2019. Rev.07 incorporates new alternatives to meet the ZERH program requirements, updates the minimum energy code for envelope insulation requirements, and includes several clarifications.

This document summarizes the significant updates found in Rev.07 relative to Rev.06.

### 1. Integration with ENERGY STAR Multifamily New Construction (ESMFNC) Program

- Rev.07 allows the ENERGY STAR Prerequisite requirement for ZERH to be met by either:
  - Certification under ENERGY STAR Qualified Homes Program Version 3 or 3.1, **OR**
  - Certification under ENERGY STAR Multifamily New Construction V1.0 or 1.1
    - projects using ESMFNC for ZERH must use the HERS or Prescriptive paths within the ESMFNC program;
    - projects using ESMFNC for ZERH must be 5 stories or less
    - projects do not have to meet the 80/20 rule for mixed use buildings
- Rev.07 advises partners that DOE is developing a revised program design for multifamily dwellings, consistent with the ENERGY STAR Multifamily New Construction program, which will be available for use (but not yet required) on/after March 1, 2020. This multifamily version of the ZERH program will likely be limited to buildings 5 stories or less above grade.

### 2. Updates to Envelope Insulation Requirements

- Instead of requiring either 2012 IECC or 2015 IECC insulation levels, based on the state, ZERH envelope requirements are set to the 2015 IECC insulation levels for all projects.
  - Makes ZERH requirements simpler to apply.
  - In Climate Zones 1-5 shifting from 2012 IECC insulation levels to 2015 IECC levels actually reduces stringency slightly for above grade wall U values; for all other affected envelope components this change shift has no impact;
  - In Climate Zones 6-8 shifting from 2012 IECC insulation levels to 2015 IECC levels slightly increases stringency for above grade wall U values; for all other affected envelope components this shift has no impact;

### 3. Establishes an Alternative to Efficient Hot Water Distribution

- As an alternative compliance option to the Efficient Hot Water Distribution provision, projects can instead comply with criteria for minimum water heater efficiency levels and the use of WaterSense showerheads and bathroom sink faucets
- This alternative may be used in single family dwellings and in multifamily dwellings with independent hot water systems.

**4. Update to WHMV Fan Efficacy Levels for the DOE ZERH Target Home**

- Updates the fan efficacy level for WHMV used in the ZERH Target Home from 1.4 cfm/W (old) to 2.8 cfm/W (new), for systems in Climate Zones 1-4 (except Marine).
- New fan efficacy levels are consistent with ENERGY STAR criteria for exhaust fans.
- This fan efficacy level for the DOE ZERH Target Home is already built into HERS rating software.

**5. Update to Energy Factor for Electric Water Heating in Attached Dwellings for the DOE ZERH Target Home**

- For attached dwellings that are using electric water heating, the Energy Factor used in the DOE ZERH Target Home is relaxed from 2.0 to 1.5.
- This change recognizes potential challenges in utilizing heat pump water heaters in attached dwelling configurations due to space constraints, and establishes a “target” Energy Factor of 1.5 (instead of 2.0). This eases the HERS penalty of the design dwelling relative to the target dwelling, in cases where electric resistance water heating is specified.
- This change to the DOE ZERH Target Home is already built into HERS rating software.

**6. Allowances for Appliances in Categories not Certified under ENERGY STAR**

- As an allowance to the DOE ZERH mandatory requirement for ENERGY STAR appliances, products in categories which are not covered by ENERGY STAR product criteria, such as combination all-in-one clothes washer-dryers, are exempt.

**7. Allowances for Application of the PV-Ready Checklist**

- For multifamily buildings, the PV-Ready provisions may be applied to the electric service for the building’s common space instead of being applied to each dwelling unit.
- If a home is served by a community solar system, it does not have to meet the PV-Ready Checklist provisions.