

November 1, 2019

To my Title 24 clients,

A code change will take effect January 1, 2020. It is a rigorous set of changes with the goal of reducing energy use in homes by more than 50% over the last code cycle. Key areas of focus are:

- Smart photovoltaic systems
- Updated envelope standards (walls, roof & glass)
- Revised ventilation requirements
- Expanded use of the HERS rating process

I have outlined the Mandatory & Prescriptive requirements below. The Mandatory Requirements are the absolute minimum required. The Prescriptive requirements define a standard home design used to compare to your proposed design. The new Prescriptive requirements are significantly more stringent resulting in fewer trade-off features that can be used to gain compliance.

Mandatory Minimums – you cannot install anything less.

- Roof insulation is R-22 (no change).
- Raised Floor insulation is R-19 (no change).
- Wall insulation is R-13 for 2 x 4 walls (no change) & R-20 (or 0.071 max u-factor) for 2 x 6 walls.
- Maximum fenestration U-factor is 0.58 (no change) (*no single pane glass can attain this*).
- Duct sealing is required for all projects including duct extensions over 41 lineal feet at additions.
- All lighting is high efficacy. Switching & vacancy/occupancy sensors are required in baths, garages and laundry.
- Merv 13 air filters required for new or replaced heating & cooling and supply side of a ventilation system.
- IAQ fans are required for all new construction and additions greater than 1000 s.f. unless a dwelling unit is added or a garage conversion addition.
- Fan efficacy required is 45 watts/cfm for gas furnace air handlers or 0.58watts/cfm for non-gas furnaces.

Prescriptive Measures – this is the baseline design.

You can fill out a form if your project meets all relative prescriptive measures. If you cannot meet all of the prescriptive measures, the performance method (computer analysis) is required to demonstrate compliance. Removing a prescriptive feature negatively affects compliance and you must offset the impact utilizing another feature.

New homes and additions will be calculated differently. New homes require a solar system where additions do not. With the higher prescriptive standards, additions and alterations will work basically the same way using the performance method.

New Homes:

- Solar Photovoltaic is required for all new homes.
- QII inspection – HERS rated Quality Insulation Inspection in all climate zones.
- Glazing U-factor is 0.30 – *most aluminum frame manufacturers cannot meet this.*
- Glazing SHGC is 0.23.
- Wall insulation U-factor is 0.065 climate zone 6 & 7 – example: R-15 with R-4 rigid.
- Wall insulation U-factor is & 0.48 for all other climate zones – example: R-21 with R-6 rigid.
- Mass walls require either interior or exterior insulation.
- Whole house IAQ fans require a HERS test and verification for all new homes & ADU's no matter the size (no change). There are new provisions for balanced systems and new sizing equations.
- A whole house Attic Cooling fan is required for climate zones 8-10. These systems must be listed on the Appliance directory. These fans will be a HERS rated item.
- Cool Roof is required for all steep roofing 4:12 pitch or greater. This is for the hotter areas of the state (no change).
- Radiant Barrier should be modeled unless using the high performance attic systems (no change).
- Minimum SEER 14.0 (no change).
- Minimum R-6 ducts in climate zones 3-7 & R-8 for all others (no change). Duct systems to meet 5% duct leakage (no change).
- Water heater is a tankless (gas) system with new provisions for a heat pump condensing tank.
- Exterior door u-factor is 0.20 maximum & NFRC labeling required.

Additions & Alterations

- Existing houses must meet 15% duct leakage if ducts are extended or HVAC equipment has been altered (no change).
- IAQ whole house indoor Air Quality fans are required for additions greater than 1000 sq.ft. unless the addition is an ADU or garage conversion, then an IAQ fan will be required.
- QII – Quality Insulation Inspection is added to the standard design for additions 700 square feet and larger.
- All prescriptive measures go into the standard design at additions greater than 700 sq.ft.

An alternate performance path for Add/Alt that may be used more often in this code cycle is “*Verify Existing Conditions*”. This method requires a HERS rater to verify the existing condition of the house. This will allow the software to take full credit for features you are planning to upgrade. Without the HERS verification, the software assumes the home has already been upgraded to current standards making compliance extremely difficult.

I encourage you to get your projects into the building department before Christmas this year. I will not be working between Christmas and New Year. A code change this significant generally involves a period of time where the learning curve will be steep for all parties involved.

Thank you.

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