

# MECHANICAL CODE DISCUSSION

## 2021 I-Code Adoption – Furnace & Water Heater Replacements + CO Detectors



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AS WE CONTINUE OUR discussions on the 2021 ICC Codes adopted in Utah this past July, we'll touch on an item in Chapter 3 in the International Residential Code (IRC), a Chapter mechanical and plumbing contractors rarely visit. Please note in the code text below, a ~~strikethrough~~ indicates text removed and underlining indicates new text.

**2021 CODE: R315.2.2 Alterations, repairs, and additions.** *Where alterations, repairs or additions requiring a permit occur, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.*

### Exceptions:

1. *Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.*
2. *Installation, alteration, or repairs of plumbing or mechanical systems.*
3. *Installation, alteration or repairs of mechanical systems that are **not** fuel fired.*



For several code cycles, the IRC has required updating smoke and carbon monoxide detection systems in a home whenever alterations, repairs,

or additions — work requiring permits occurring within a home. There are several exceptions

including work on plumbing and mechanical systems. This changes in the 2021 IRC, making an exception only to those mechanical systems which are **not** fuel fired. Please note, by definition, a water heater is a mechanical system as it has an input (gas and oxygen), a process (combustion), and an output (heated water).

Please consider the following in your gas appliance installations:

- The code for new construction requires a CO detector **on every level of the home**, whenever combustion appliances are installed.
- The code requires permits for mechanical appliance replacements. Some jurisdictions don't require

permits, others will issue a permit if you apply, and others actively enforce and look for you trucks.

- Some of you pull permits for every retrofit/replacement, others in specific jurisdictions, and others not at all, unless you're caught.
- In any case, the code as adopted now requires a carbon monoxide detector, on every level of the home, if not already present, whenever you install one of these as fired appliances.
- Whether you pull a permit or not, please consider installing a carbon monoxide detector with every gas space or water heating appliance if the home is not equipped with one.

The intent of this code change goes beyond the gas appliance, providing protection from car exhaust, generators, barbecue, and other devices improperly used within a garage. The detector you add for a small cost will protect occupants from CO from any source.

*Please continue to ask questions and share your opinions and comments. Happy Holidays! —Brent*