



## Smoke Alarm / Carbon Monoxide Requirements

for residential additions and rehabilitation projects

### **Creation of a bedroom in an existing home:** *NJAC 5:23-6.6(e)12*

- A hardwired **smoke alarm** shall be installed inside the bedroom as well as outside the bedroom in the immediate vicinity of the bedroom. These two smoke alarms shall be interconnected. If existing interconnected smoke alarms are present in the home than the new smoke alarms shall be interconnected to the existing.
- A **carbon monoxide alarm** shall be installed in the immediate vicinity outside the bedroom or as directed in R315 of the 2021 NJ edition of the IRC.
- **Plan submission:** Indicate the location of the proposed **smoke alarms** on the plans and how they will be interconnected (wireless vs. hard wired interconnection). If wireless, submit the manufacturer's specifications for the device. Indicate whether **carbon monoxide** detection will be by plug in, battery, or hardwired alarm.

### **Reconstruction project (extent of work is such that a new certificate of occupancy must be issued because the structure cannot be occupied during the work):** *NJAC 5:23-6.27(a)*

- **Smoke alarms** must be installed throughout the structure in accordance with the most recently adopted one & two family subcode.
- **Carbon monoxide alarms** shall be installed in accordance with section R315 of the 2021 NJ edition of the IRC.
- **Plan submission:** Indicate the location of the proposed **smoke alarms** on the plans and how they will be interconnected (wireless vs. hard wired interconnection). If wireless, submit the manufacturer's specifications for the device. Indicate whether **carbon monoxide** detection will be by plug in, battery, or hardwired alarm.

### **Addition:** *NJAC 5:23-6.32(f)1 and NJAC 5:23-6.32(f)2*

- If the cumulative area of all floors of the addition is 5% or more, but less than 25% of the floor area of the largest floor of the existing structure than hardwired, interconnected **smoke alarms** with battery back-up shall be installed on each story of the structure including the basement.
- If the cumulative area of all floors of the addition is 25% or more of the floor area of the largest floor of the existing structure than **smoke alarms** must be installed throughout the structure in accordance with section R315 of the 2021 NJ edition of the IRC.
- **Carbon monoxide alarms** shall be installed in accordance with section R315 of the 2021 NJ edition of the IRC.

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- **Plan submission:** Indicate the location of the proposed **smoke alarms** on the plans and how they will be interconnected (wireless vs. hard wired interconnection). If wireless, submit the manufacturer's specifications for the device.
  - If the existing home has hard wired AC/battery backup smoke or carbon monoxide alarms that are interconnected and fully compliant with the above locations this shall be indicated in writing on the plans or shown on the plan.
  - If the existing home is required to have new smoke or carbon monoxide alarms installed in order to comply the plans need to indicate these locations.

**Power & interconnection requirements:** *2021 NJ Edition of the IRC R314.4 and 314.6*

- Interconnection may be wireless but every **smoke alarm** shall receive their primary power from the building wiring and a battery as a back-up. **Carbon Monoxide alarms** shall be hardwired, battery backup, and interconnected when installed in additions or new construction. Battery or plug-in **carbon monoxide alarms** are allowable for the creation of a bedroom in an existing home or for a reconstruction project.
- **Smoke alarms** shall not exceed the manufacturer's instructions but in no case shall be more than twelve interconnected devices with smoke detection per *NFPA 72-19 section 29.11.2.1*.
  - If 12 devices with smoke detection are required or upon the elective of the applicant a **household fire alarm system** will need to be installed.
    - Shall be monitored and proof of signal transmission shall be required at acceptance testing.
    - Fire alarm system and control panel shall be permanently installed and owned by the homeowner.
    - Installation shall comply with the household fire warning provisions of NFPA 72-19.

**Specific location of devices:** *2021 NJ edition of the IRC section R314.3 and NFPA 72*

- Not less than 3' from a door or opening into a bathroom (containing a bathroom or shower)
- Not less than 20' from a cooking appliance when of ionization type alarm
- Not less than 6' from a cooking appliance when of photo electric type alarm
- Within 4"-36" of a peaked ceiling
- Not within 3' of a supply register or the tip of a fan blade
- In the basement shall be located on the ceiling near the steps
- For a tray or coffered ceiling shall be on the higher portion of the ceiling
- Shall not be installed in areas which are outside of the ambient conditions specified by the manufacturer (typically 40°F – 100°F)
  - Such as un-conditioned garages and attics