



St. Louis County Department of Public Works  
Division of Code Enforcement

**APPROVED RULE AND REGULATION**

DIVISION: Code Enforcement

RULE NUMBER: B-02-15

EFFECTIVE: November 9, 2015

**SUBJECT: SMOKE ALARMS – RESIDENTIAL ALTERATIONS, REPAIRS AND ADDITIONS**

**Purpose:** Clarify the power source required for smoke alarms added in an existing building under the 2009 IRC in light of code changes made in the 2015 IRC.

**Scope:** This Rule and Regulation pertains to smoke alarms being installed in an existing one or two family dwelling or townhouse that is undergoing an alteration, repair or addition.

**Rule/Policy:** Effective upon publication of this rule, smoke alarms installed as part of IRC regulated alteration, repair, or addition projects shall be permitted to be battery powered or wire connected to the building’s power system with battery backup. Interconnection between smoke alarms, so that all alarms sound upon activation of one alarm, shall be required by physical wire or wireless connection. All smoke alarms shall be UL listed.

**Background:** Under the 2009 IRC, interior alterations, repairs and additions that require a building permit also require the installation of smoke alarms throughout the dwelling in the same locations as required in new dwellings. The code generally requires these smoke alarms to be both connected to the building’s power system and to be interconnected. Recognizing that it is not always feasible to connect the alarms to the building’s power system and to each other, there is an exception when both the scope of work does not involve the removal of interior wall or ceiling finishes and there is not an adjacent attic, crawl space or basement through which the necessary wiring could be run. In the case of this exception, the IRC allows for battery-operated smoke alarms that are not interconnected. The ICC recognizes this requires individual jurisdictions to make judgments as to feasibility. Since houses in our area commonly have attics and basements, we have generally required both connection to the building’s power system and interconnection by physical wire or wireless methods.

**New 2015 IRC Significant Changes:** The 2015 IRC no longer considers the presence of attics, crawl spaces and basements when determining the power source for smoke alarms being installed in conjunction with an alteration, repair, or addition. Instead, the 2015 IRC indicates that such smoke alarms are permitted to be battery powered in lieu of connection to the building’s power system.

**Justification:** The IRC requirements were changed in recognition that installing battery-operated smoke alarms is relatively easy and inexpensive in contrast to installing electrical wiring in an existing building. Even when attics, crawl spaces and basements are present, the associated electrical costs can be significant and for smaller interior projects, disproportionate to the overall project cost. The added expenses can encourage people to avoid required permits and inspections altogether, thereby contributing to potential hazards to all current and future occupants of affected dwellings. The installation of smoke detectors in accordance with the 2015 IRC when a residential dwelling is undergoing an alteration, repair or addition has been determined through the nationwide code development process to provide an acceptable level of safety. Until such time as the 2015 IRC is adopted by the County, compliance with the specific 2015 IRC provisions discussed above is considered by the Public Works Code Enforcement Division to be an acceptable alternative to compliance with the provisions of the 2009 IRC as currently adopted by the County.

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