**15-024**

**1. State Building Code to be Amended:**

International Building Code  State Energy Code

ICC ANSI A117.1 Accessibility Code  International Mechanical Code

International Existing Building Code  International Fuel Gas Code

International Residential Code  NFPA 54 National Fuel Gas Code

X International Fire Code  NFPA 58 Liquefied Petroleum Gas Code

Uniform Plumbing Code  Wildland Urban Interface Code

**Section(s):** Sections 1103.4.2, 1103.4.3

**Title:**

Vertical Openings

**2. Proponent Name (Specific local government, organization or individual):**

**Proponent: David Kokot**

**Title: Fire Protection Engineer**

**Date: 2/4/15**

**3. Designated Contact Person:**

**Name: David Kokot**

**Title: Fire Protection Engineer**

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**4. Proposed Code Amendment**. Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert new sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code additional pages may be attached. (Examples on the SBCC [website](https://fortress.wa.gov/ga/apps/sbcc/Page.aspx?nid=191))

**Code(s)** 2015 International Fire Code **Section(s)** 1103.4.2, 1103.4.3

Revise the Following Sections:

**1103.4.2 Three to five stories.** In other than Group I occupancies, interior vertical openings connecting three to five

stories shall be protected by either 1-hour fire-resistant~~ce~~ and smoke rated construction or an *automatic sprinkler system* shall be installed throughout the building in accordance with Section 903.3.1.1 or 903.3.1.2.

**Exceptions:**

1. Vertical opening protection is not required for Group R-3 occupancies.

2. Vertical opening protection is not required for open parking garages and ramps.

3. Vertical opening protection for escalators shall be in accordance with Section 1103.4.5, 1103.4.6 or

1103.4.7.

**1103.4.3 More than five stories.** In other than Group I occupancies, interior vertical openings connecting more than five

stories shall be protected by 1-hour fire-resistant~~ce~~ and smoke-rated construction.

**Exceptions:**

1. Vertical opening protection is not required for Group R-3 occupancies.

2. Vertical opening protection is not required for open parking garages and ramps.

3. Vertical opening protection for escalators shall be in accordance with Section 1103.4.8.

1. **Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.** Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

The Fire Code does not specifically state that the fire resistance needed is to include both fire and smoke ratings. In regards to vertical openings between floors, the spread of smoke and fire is one of the leading causes of fire expanding from floor to floor. In order to properly provide life safety protection for floors in a building that has a fire in another floor, this needs to be clarified. An historical example of this type of fire behavior and loss of life is the MGM Grand which allowed smoke to penetrate areas of the building that were far from the fire source.

1. **Specify what criteria this proposal meets.** You may select more than one.

X The amendment is needed to address a critical life/safety need.

The amendment is needed to address a specific state policy or statute.

The amendment is needed for consistency with state or federal regulations.

The amendment is needed to address a unique character of the state.

The amendment corrects errors and omissions.

1. **Is there an economic impact: X** Yes      No

Explain:

The construction of rated vertical openings for both fire and smoke resistance could affect the construction costs by approximately $1,000 - $5,000 per floor per elevator for this scope of construction (vertical openings only) in order to provide and test the smoke seal integrity for the new assembly. Enforcement would not be significantly affected, as will the operations and maintenance. These costs could be affected if an active protection system is provided (i.e.: elevator shaft pressurization), which The proposal is intended to clarify the intent of the current code language, and provide consistency in enforcement.  Some jurisdictions interpret the current code language to mean that it is not necessary to provide both fire and smoke ratings.

If there is an economic impact, use the Table below to estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. If preferred, you may submit an alternate cost benefit analysis.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Building Type | Construction[[1]](#footnote-1) | | Enforcement[[2]](#footnote-2) | | Operations & Maintenance[[3]](#footnote-3) | |
| Costs | Benefits[[4]](#footnote-4) | Costs | Benefits4 | Costs | Benefits4 |
| Residential |  |  |  |  |  |  |
| Single family |  |  |  |  |  |  |
| Multi-family | $1K-$5K/flr/el |  | \* |  | \*\* |  |
| Commercial/Retail | $1K-$5K/flr/el |  | \* |  | \*\* |  |
| Industrial | $1K-$5K/flr/el |  | \* |  | \*\* |  |
| Institutional | $1K-$5K/flr/el |  | \* |  | \*\* |  |

**\***The review of plans and inspection of the construction would incur a cost, but these tasks are normally associated with other work being done at the same time. If this were the only work, plan review would be about $500-$1,000, and inspection would be in the same range.

\*\*Depending upon the method of meeting the requirements, the O&M costs would vary. For static protection (walls, doors, etc), this would be $0. If active pressurization is implemented, then annual testing and maintenance costs would be incurred.

Please send your completed proposal to: [sbcc@ga.wa.gov](mailto:sbcc@ga.wa.gov)

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.

1. $ / square foot of floor area or other cost. Attach data. **Construction** costs are costs prior to occupancy, and include both design and direct construction costs

   that impact the total cost of the construction to the owner/consumer. [↑](#footnote-ref-1)
2. Cost per project plan. Attach data. **Enforcement** costs include governmental review of plans, field inspection, and other action required for enforcement. [↑](#footnote-ref-2)
3. Cost to building owner/tenants over the life of the project. [↑](#footnote-ref-3)
4. Measurable benefit.

   [↑](#footnote-ref-4)