**15-042**

**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

International Fire Code  NFPA 58 Liquefied Petroleum Gas Code

Uniform Plumbing Code  Wildland Urban Interface Code

**Section(s):**

IBC/IFC Section 907.3.1, exception #1 and IMC Section 606.4.1, exception #1.

**Title:** Clarify that duct detectors and not intended to be used to put the building into alarm.

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

**Proponent:** Lee J. Kranz, representing the City of Bellevue Building and Fire Departments

**Title:** Plan Review Supervisor

**Date:** February 26, 2015

**3. Designated Contact Person:**

**Name:** Lee J. Kranz

**Title:** Plan Review Supervisor

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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))

**Codes:** **2015 IBC** **Section** **907.3.1**

**2015 IFC Section 907.3.1**

**2015 IMC Section 606.4.1**

Enforceable code language must be used; see an example [by clicking here](https://fortress.wa.gov/ga/apps/SBCC/File.ashx?cid=1803).

Amend section to read as follows:

**Revise IBC and IFC Section 907.3.1text as follows:**

[F] 907.3.1 Duct smoke detectors.

Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by Section 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location and shall perform the intended fire safety function in accordance with this code and the International Mechanical Code. Duct smoke detectors shall not be used as a substitute for required open area detection.

Exceptions:

1.            The supervisory signal at a constantly attended location is not required where duct smoke detectors activate ~~the building's alarm notification appliances~~ supervisory indicators installed in an approved location clearly labeled to indicate both their function, and the air-handling unit(s) associated with each detector. Duct detectors shall not be used to create a general alarm notification.

2.            In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

**Revise IMC Section 606.4.1text as follows:**

[F] 606.4.1 Supervision.

The duct smoke detectors shall be connected to a fire alarm system where a fire alarm system is required by Section 907.2 of the International Fire Code. The actuation of a duct smoke detector shall activate a visible and audible supervisory signal at a constantly attended location.

Exceptions:

1.            The supervisory signal at a constantly attended location is not required where the duct smoke detector activates ~~the building's alarm indicating appliances~~ supervisory indicators installed in an approved location clearly labeled to indicate both their function, and the air-handling unit(s) associated with each detector. Duct detectors shall not be used to create a general alarm notification.

2.            In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and audible signal in an approved location. Duct smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

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.

**Reason:** When smoke is detected in the HVAC air stream, duct detectors are commonly required to either shut down air-handling equipment or to close smoke or fire dampers which are part of a fire resistance rated assembly. There have been many instances of false alarms due to faulty detection devices or dusts or other obstructions in the air stream causing the building to go into alarm. There was new language placed in the 2015 IFC, IBC and IMC that was intended to clarify that duct smoke detectors would send a “supervisory signal” only and not a fire alarm notification. Exception #1 provides an option to not send the supervisory signal to a constantly attended location where the duct detectors activate the building’s alarm notification appliances but there is not clarity in what is meant by “the building’s alarm notification appliances”.

This code change clarifies that when exception #1 is used, duct detectors are required to be provided with remote supervisory indicators, installed in an accessible location that indicate both their function and which air-handling unit(s) they serve and that the duct detectors shall not be used to create a general alarm notification.

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

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:**  Yes      No

Explain: This proposal is for clarification purposes only and will not affect the scope or cost of installation.

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 | Cost/DU | Costs | Benefits4 | Costs | Benefits4 |
| Residential |  |  |  |  |  |  |
| Single family |  |  |  |  |  |  |
| Multi-family |  |  |  |  |  |  |
| Commercial/Retail |  |  |  |  |  |  |
| Industrial |  |  |  |  |  |  |
| Institutional |  |  |  |  |  |  |

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)