

**DIVISION OF BUILDING SAFETY
APPLICATION FOR REVIEW OF A PROPOSED STATEWIDE AMENDMENT
TO STATE ADOPTED CODES
2012 Code Adoption Cycle**

Log# _____
(Office Use Only)

PLEASE FOLLOW INSTRUCTIONS ON PAGE FIVE

1. State Building Code to be Amended:

<input checked="" type="checkbox"/> International Building Code	<input type="checkbox"/> International Energy Conservation Code
<input type="checkbox"/> International Residential Code	<input type="checkbox"/> International Mechanical Code
<input type="checkbox"/> International Fuel Gas Code	<input type="checkbox"/> National Electrical Code
<input type="checkbox"/> International Existing Building Code	<input type="checkbox"/>
<input type="checkbox"/> Idaho State Plumbing Code	<input type="checkbox"/>

Section 907.2.3 Page 217

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

Code Collaborative Subcommittee

3. Signed:

	City of Boise Building Official	2-18-15
Proponent	Title	Date

4. Designated Contact Person:

Jason Blais	City of Boise Building Official
Name	Title

Address: City of Boise – Planning & Development Services (PDS)
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Boise, ID 83701

384-3807		384-3814
Office Phone	Cell	Fax

E-mail address: jblais@cityofboise.org

5. Proposed Code Amendment. Use ‘legislative format’ including both old and new language. See instructions on page five for specific details. Please attach a separate sheet for each separate proposal.

IBC Code	907.2.3 Section	217 Page
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Please note number of additional pages: 2

[F] **907.2.3 Group E.** A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an *occupant load* of ~~30~~ 50 or less.
2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.
- ~~2.~~ 3. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
 - ~~2.1.~~ 3.1. Interior *corridors* are protected by smoke detectors.
 - ~~2.2.~~ 3.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by *heat detectors* or other *approved* detection devices.
 - ~~2.3.~~ 3.3. Shops and laboratories involving dusts or vapors are protected by *heat detectors* or other *approved* detection devices.
- ~~3.~~ 4. Manual fire alarm boxes shall not be required in Group E occupancies where ~~the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the emergency voice/alarm communication system will activate on sprinkler water flow and manual activation is provided from a normally occupied location.~~ all of the following apply:
 - 4.1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.
 - 4.2. The emergency voice/alarm communication system will activate on sprinkler waterflow.
 - 4.3. Manual activation is provided from a normally occupied location.

Supporting Data for Statewide Amendment Proposals. This information is required for all statewide amendment proposals. **Attach supporting documentation, as necessary; incomplete proposals will not be accepted.**

The governing boards require supporting data on any amendment proposal to show:

1. That it meets basic criteria – See Part I to specify how this proposal meets the criteria for code amendment.
2. The intended effect – See Part II to describe the purpose of the proposed amendment, including the benefits and the problems addressed.
3. The potential impacts or benefits to business – See Part III/Types of Construction, to explain how methods in construction businesses, industries and services would be affected.
4. The potential impacts on enforcement procedures, See Part III/Types of Services Required, to provide some analysis of the impacts on code enforcement in local jurisdictions.
5. Economic costs and benefits – Use the Table in Part IV of this form to estimate the costs and benefits of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance.

Part I ♦ Background information on amendment.

Code references: Section 907.2.3

Title: Group E

Related Codes: Yes – Fire Code needs to be amended as well for consistency.

(Does this amendment change other related codes?)

Proponent: Jason Blais

Phone: 384-3807

Date: 2/18/15

NOTE: Amendments to the state building code must be based on one of the following criteria; please indicate the pertinent rationale for the proposed amendment by selecting from the list below:

- (1) The amendment is needed to address a critical life/safety need.
- (2) The amendment is needed to address a specific state policy or statute.
- (3) The amendment is needed for consistency with state or federal regulations.
- (4) The amendment is needed to address a unique character of the state.
- (5) The amendment corrects errors and omissions.

Part II ♦ Amendment Benefit:

PROBLEM(S) ADDRESSED (Describe the intended effect of the proposed code amendment):

In the 2009 IBC the occupant load threshold for requiring a manual fire alarm system in an E occupancy was over 50 occupants. In the 2012 IBC the threshold has been lowered to over 30 occupants and a voice/alarm communication system is required in addition to the manual fire alarm system. This new requirement is excessive especially in small school buildings or daycares where there is no need to have a voice notification system. Installing these systems can also be costly for small operations.

Fortunately this excessive requirement was noticed and has been corrected to a more reasonable approach published in the 2015 IBC, which is currently not adopted. This proposal reflects the corrected language in the 2015 IBC and the Code Collaborative Subcommittee agreed to recommend this code amendment as resolution to the applicable section in the current adopted 2012 IBC. To correlate the requirements with Fire Officials, it is recommended that the Fire Code be amended as well.

PRIMARY REASON FOR AMENDMENT: (Describe how the amendment meets one of the criteria listed above)

The explanation of the change from the 2009 code to the 2012 code was not backed up with any apparent major incidents or loss history. The occupant load number was lowered to match a rated corridor threshold instead of staying with the threshold of when two exits are required. This seems to have been an error in judgment.

This change has been considered excessive and was properly corrected in the development of the 2015 version of the code. The 2015 code language is what is being proposed here for the currently adopted 2012 IBC.

This tiered approach for fire alarm requirements in the E occupancy is much more reasonable and is summarized as follows:

- 50 or less occupant load – fire alarm system is not required (for small schools/daycares)
- 51-100 occupant load – manual fire alarm system is required (for mid-size schools/daycares)
- 101 or more occupant load – manual fire alarm system with emergency voice/alarm communication system (for larger schools/daycares)

There is no cost associated with this amendment proposal. In fact, this amendment will reduce costs to these educational occupancy buildings when compared to the current 2012 IBC language on this section.

There is agreement and a recommendation of approval from the Code Collaborative Subcommittee on this amendment proposal.

TYPE OF BENEFITS PROJECTED:

Part III ♦ Amendment Impacts or Benefits:

TYPES OF CONSTRUCTION: New Construction Alteration/Tenant Improvement/Repair
 Residential-Single Family Residential-Multi Family Commercial Industrial

List businesses/industries affected by amendment:

Manufacturers: _____
 Specific Construction Contractors & Trades: Commercial Contractors
 Construction Supply Industry: _____
 Specialty Trades: Fire Alarm Designers/Contractors
 Types of Buildings: Schools, Daycares
 Fire Protection Industry: Fire Alarm Designers/Contractors

Types of Services Required:

- Reporting:** Brief Description _____
- Record Keeping:** Brief Description _____
- Other:** Brief Description _____
- Indirect Cost to Industry:** Indicate whether there are multiple sources to obtain the equipment, material or service required by this proposal. If not, provide a justification of the benefit versus small business impact.

Part IV ♦ Amendment Costs and Benefits

Building Type	Construction ¹			Enforcement ²			Operations & Maintenance ³		
	Co sts	% impact ⁴	Benefits ⁵	Costs	% impact	Benefits	Costs	% impact	Benefits
Residential									
Single family									
Multi-family									
Commercial/Retail	∅	∅	Contractors	∅	∅	More reasonable enforcement	∅	∅	Schools Daycares } reduces costs
Industrial									
Institutional									

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.

2 Cost per project plan. Attach data. Enforcement costs include governmental review of plans, field inspection, and mediated litigation required for enforcement.

3 Cost to building owner/tenants over the life of the project.

4 Cost differential over a specific size project or range of projects as determined by the proponent. Provide sufficient cost and benefit detail to clarify the impact to the Council. All data should be created and referenced to third party reputable sources for verification.

5 Note sectors with measurable benefit from Part II, including benefits to a) the user, b) the public, c) the industry, and/or d) the economy; use e) for all of the above.

using an emergency voice/alarm communications system in accordance with Section 907.5.2.2.

Exception: Where *approved*, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an *approved, constantly attended location*.

[F] 907.2.1.2 Emergency voice/alarm communication captions. Stadiums, arenas and grandstands required to caption audible public announcements shall be in accordance with Section 907.5.2.2.4.

[F] 907.2.2 Group B. A manual fire alarm system shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B *occupant load* of all floors is 500 or more.
2. The Group B *occupant load* is more than 100 persons above or below the lowest level of exit discharge.
3. The *fire area* contains an ambulatory care facility.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

[F] 907.2.2.1 Ambulatory care facilities. *Fire areas* containing ambulatory care facilities shall be provided with an electronically supervised automatic smoke detection system installed within the ambulatory care facility and in public use areas outside of tenant spaces, including public *corridors* and elevator lobbies.

Exception: Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, provided the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

[F] 907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an *occupant load* of 50 or less.
2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that

activation of the manual fire alarm system initiates an *approved* occupant notification signal in accordance with Section 907.5.

3. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:

- 3.1. Interior *corridors* are protected by smoke detectors.
- 3.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by *heat detectors* or other *approved* detection devices.
- 3.3. Shops and laboratories involving dusts or vapors are protected by *heat detectors* or other *approved* detection devices.

4. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:

- 4.1. The building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
- 4.2. The emergency voice/alarm communication system will activate on sprinkler waterflow.
- 4.3. Manual activation is provided from a normally occupied location.

[F] 907.2.4 Group F. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group F occupancies where both of the following conditions exist:

1. The Group F occupancy is two or more *stories* in height.
2. The Group F occupancy has a combined *occupant load* of 500 or more above or below the lowest level of exit discharge.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

[F] 907.2.5 Group H. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. An automatic smoke detection system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with Chapters 60, 62 and 63, respectively, of the *International Fire Code*.

[F] 907.2.6 Group I. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group I occupancies. An automatic smoke detection system that activates the occupant notification system in accordance with Section

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907.2.3 (IBC [F] 907.2.3)

Proponent: Adolf Zubia. Chairman IAFB Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

907.2.3 (IBC [F] 907.2.3) Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an occupant load of ~~30~~ 50 or less.
2. Emergency voice/ alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.
- ~~23.~~ Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
 - ~~2-1~~ 31. Interior corridors are protected by smoke detectors.
 - ~~2-2~~ 32. Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
 - ~~2-3~~ 33. Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
- ~~34.~~ Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the emergency voice/alarm communication system will activate on sprinkler water flow and manual activation.

Reason: Many small schools or day cares consist of one or two rooms. For such small buildings, there is no need to install a notification system to warn occupants of fires or other emergencies, as occupants are typically in close visual or audible contact with all occupied spaces and with each other. This arrangement provides for adequate means to notify all occupants of the building of potential hazardous conditions to initiate emergency actions, including evacuation.

The threshold in Exception 1 has been reduced from 50 to 30 with no apparent loss history. The testimony presented by the proponent of Code Change F107-09/10 was that the number was modified to correlate the occupant load trigger for 1-HR rated corridors. It is common that individual classrooms contain an occupant load of 30 students. It seems that a more appropriate occupant load trigger is the egress provision which requires a second exit at an occupant load of 50, not 30.

An alarm system in a single classroom, or set of small classrooms, does not appear justified. It appears that the appropriate 'occupant load trigger' is 50 since that is when a fire alarm system has been required for many years without any major incidents. Therefore, this proposal will move the trigger to an occupant load of 50 to determine when a manual fire alarm system is required.

Exception 2 is proposed to be added. This exception would require the emergency voice communication system when the occupant load exceeds 100, as buildings with larger numbers of occupants may necessitate detailed instructions regarding evacuation, relocation, or other actions to ensure safety of building occupants. Often, these buildings include multiple floors, fire areas, and egress paths, and occupants may require notification of more detailed or modified instructions on alternate courses of action other than those stated in a standard evacuation plan.

The result of this proposal is that when the occupant load is:

50 or less – fire alarm system is not required

51 to 100 – manual fire alarm system is required

101 or more – manual fire alarm system with emergency voice/alarm communication system