

**(Effective until March 15, 2024)**

**WAC 51-54A-0907 Fire alarm and detection systems.**

**907.2.3 Group E.** Group E occupancies shall be provided with a manual fire alarm system that initiates the occupant notification signal utilizing one of the following:

1. An emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6; or

2. A system developed as part of a safe school plan adopted in accordance with RCW 28A.320.125 or developed as part of an emergency response system consistent with the provisions of RCW 28A.320.126. The system must achieve all of the following performance standards:

2.1 The ability to broadcast voice messages or customized announcements;

2.2 Includes a feature for multiple sounds, including sounds to initiate a lock down;

2.3 The ability to deliver messages to the interior of a building, areas outside of a building as designated pursuant to the safe school plan, and to personnel;

2.4 The ability for two-way communications;

2.5 The ability for individual room calling;

2.6 The ability for a manual override;

2.7 Installation in accordance with NFPA 72;

2.8 Provide 15 minutes of battery backup for alarm and 24 hours of battery backup for standby; and

2.9 Includes a program for annual inspection and maintenance in accordance with NFPA 72.

**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, such as individual portable school classroom buildings; provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.

3. Where an existing approved alarm system is in place, an emergency voice/alarm system is not required in any portion of an existing Group E building undergoing any one of the following repairs, alteration or addition:

3.1 Alteration or repair to an existing building including, without limitation, alterations to rooms and systems, and/or corridor configurations, not exceeding 35 percent of the fire area of the building (or the fire area undergoing the alteration or repair if the building is comprised of two or more fire areas); or

3.2 An addition to an existing building, not exceeding 35 percent of the fire area of the building (or the fire area to which the addition is made if the building is comprised of two or more fire areas).

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

4.1 Interior corridors are protected by smoke detectors.

4.2 Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.

4.3 Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.

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

5.1 The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

5.2 The emergency voice/alarm communication system will activate on sprinkler waterflow.

5.3 Manual activation is provided from a normally occupied location.

**907.2.3.1 Sprinkler systems or detection.** When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

**907.2.6.1 Group I-1.** An automatic smoke detection system shall be installed in *corridors*, waiting areas open to *corridors* and *habitable spaces* other than *sleeping units* and *kitchens*. The system shall be activated in accordance with Section 907.4.

**EXCEPTIONS:**

1. For Group I-1 Condition 1 occupancies, smoke detection in *habitable spaces* is not required where the facility is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.

2. Smoke detection is not required for exterior balconies.

**907.2.6.4 Group I-4 occupancies.** 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 I-4 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 I-4 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 I-4 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.

**907.5.2.1.2 Maximum sound pressure.** The maximum sound pressure level for audible alarm notification appliances shall be 110 dBA at the minimum hearing distance from the audible appliance. For systems operating in public mode, the maximum sound pressure level shall not exceed 30 dBA over the average ambient sound level. Where the average ambient noise is greater than 95 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

**907.10.1 Testing/maintenance:** All inspection, testing, maintenance and programming not defined as "*electrical construction trade*" by chapter 19.28 RCW shall be completed by a NICET II or ESA/NTS Certified Fire Alarm Technician (CFAT) Level II Fire in fire alarms (effective July 1, 2018).

**907.11 NICET: National Institute for Certification in Engineering Technologies and ESA/NTS: Electronic Security Association/National Training School.**

**907.11.1 Scope.** This section shall apply to new and existing fire alarm systems.

**907.11.2 Design review:** All construction documents shall be reviewed by a NICET III, an ESA/NTS Certified Fire Alarm Designer (CFAD) Level III Fire in fire alarms, or a licensed professional engineer (PE) in Washington prior to being submitted for permitting. The reviewing professional shall submit a stamped, signed, and dated letter; or a verification method approved by the local authority having jurisdiction indicating the system has been reviewed and meets or exceeds the design requirements of the state of Washington and the local jurisdiction (effective July 1, 2018).

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 21-04-003, § 51-54A-0907, filed 1/20/21, effective 2/20/21; WSR 20-01-162, § 51-54A-0907, filed 12/18/19, effective 7/1/20. Statutory Authority: RCW 19.27.031, 19.27.074 and chapter 19.27 RCW. WSR 19-02-086, § 51-54A-0907, filed 1/2/19, effective 7/1/19. Statutory Authority: RCW 19.27.074 and 19.27.550. WSR 18-01-104, § 51-54A-0907, filed 12/19/17, effective 7/1/18. Statutory Authority: Chapter 19.27 RCW and RCW 19.27.031. WSR 17-10-028, § 51-54A-0907, filed 4/25/17, effective 5/26/17. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-055, § 51-54A-0907, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-091, § 51-54A-0907, filed 12/1/14, effective 5/1/15. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0907, filed 2/1/13, effective 7/1/13.]

**(Effective March 15, 2024)**

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1. An emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6; or

2. A system developed as part of a safe school plan adopted in accordance with RCW 28A.320.125 or developed as part of an emergency response system consistent with the provisions of RCW 28A.320.126. The system must achieve all of the following performance standards:

2.1 The ability to broadcast voice messages or customized announcements;

2.2 Includes a feature for multiple sounds, including sounds to initiate a lock down;

2.3 The ability to deliver messages to the interior of a building, areas outside of a building as designated pursuant to the safe school plan, and to personnel;

2.4 The ability for two-way communications;

2.5 The ability for individual room calling;

2.6 The ability for a manual override;

2.7 Installation in accordance with NFPA 72;

2.8 Provide 15 minutes of battery backup for alarm and 24 hours of battery backup for standby; and

2.9 Includes a program for annual inspection and maintenance in accordance with NFPA 72.

**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, such as individual portable school classroom buildings; provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.

3. Where an existing approved alarm system is in place, an emergency voice/alarm system is not required in any portion of an existing Group E building undergoing any one of the following repairs, alteration or addition:

3.1 Alteration or repair to an existing building including, without limitation, alterations to rooms and systems, and/or corridor configurations, not exceeding 35 percent of the fire area of the building (or the fire area undergoing the alteration or repair if the building is comprised of two or more fire areas); or

3.2 An addition to an existing building, not exceeding 35 percent of the fire area of the building (or the fire area to which the addition is made if the building is comprised of two or more fire areas).

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

4.1 Interior corridors are protected by smoke detectors.

4.2 Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.

4.3 Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.

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

5.1 The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

5.2 The emergency voice/alarm communication system will activate on sprinkler waterflow.

5.3 Manual activation is provided from a normally occupied location.

**907.2.3.1 Sprinkler systems or detection.** When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

**907.2.6.1 Group I-1.** An automatic smoke detection system shall be installed in *corridors*, waiting areas open to *corridors* and *habitable spaces* other than *sleeping units* and kitchens. The system shall be activated in accordance with Section 907.4.

**EXCEPTIONS:**

1. For Group I-1 Condition 1 occupancies, smoke detection in *habitable spaces* is not required where the facility is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.

2. Smoke detection is not required for exterior balconies.

**907.2.6.4 Group I-4 occupancies.** 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 I-4 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 I-4 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 I-4 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.

**907.2.11.1 Group R-1.** Single or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In each *loft* constructed in accordance with Section 420.13 of the *International Building Code*.
3. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
4. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

**907.2.11.2 Groups R-2, R-3, and I-1.** Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each *loft* constructed in accordance with Section 420.13.
4. In each story within a *dwelling unit*, including *basements* but not including crawl spaces and uninhabitable attics. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

**907.5.2.1.2 Maximum sound pressure.** The maximum sound pressure level for audible alarm notification appliances shall be 110 dBA at the minimum hearing distance from the audible appliance. For systems operating in public mode, the maximum sound pressure level shall not exceed 30 dBA over the average ambient sound level. Where the average ambient noise is greater than 95 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

**907.8.4.1 Testing/maintenance:** All inspection, testing, maintenance and programming not defined as "*electrical construction trade*" by chapter 19.28 RCW shall be completed by a NICET II or ESA/NTS Certified Fire Alarm Technician (CFAT) Level II Fire in fire alarms (effective July 1, 2018).

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fication method approved by the local authority having jurisdiction indicating the system has been reviewed and meets or exceeds the design requirements of the state of Washington and the local jurisdiction (effective July 1, 2018).

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093, 23-12-107, and 23-20-027, § 51-54A-0907, filed 6/14/22, 6/7/23, and 9/25/23, effective 3/15/24; WSR 21-04-003, § 51-54A-0907, filed 1/20/21, effective 2/20/21; WSR 20-01-162, § 51-54A-0907, filed 12/18/19, effective 7/1/20. Statutory Authority: RCW 19.27.031, 19.27.074 and chapter 19.27 RCW. WSR 19-02-086, § 51-54A-0907, filed 1/2/19, effective 7/1/19. Statutory Authority: RCW 19.27.074 and 19.27.550. WSR 18-01-104, § 51-54A-0907, filed 12/19/17, effective 7/1/18. Statutory Authority: Chapter 19.27 RCW and RCW 19.27.031. WSR 17-10-028, § 51-54A-0907, filed 4/25/17, effective 5/26/17. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-055, § 51-54A-0907, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-091, § 51-54A-0907, filed 12/1/14, effective 5/1/15. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0907, filed 2/1/13, effective 7/1/13.]

**(Effective March 16, 2024)**

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2.1 The ability to broadcast voice messages or customized announcements;

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**EXCEPTIONS:**

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- 3.1 Alteration or repair to an existing building including, without limitation, alterations to rooms and systems, and/or corridor configurations, not exceeding 35 percent of the fire area of the building (or the fire area undergoing the alteration or repair if the building is comprised of two or more fire areas); or
- 3.2 An addition to an existing building, not exceeding 35 percent of the fire area of the building (or the fire area to which the addition is made if the building is comprised of two or more fire areas).
- 4. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
  - 4.1 Interior corridors are protected by smoke detectors.
  - 4.2 Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
  - 4.3 Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
- 5. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:
  - 5.1 The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.
  - 5.2 The emergency voice/alarm communication system will activate on sprinkler waterflow.
  - 5.3 Manual activation is provided from a normally occupied location.

**907.2.3.1 Sprinkler systems or detection.** When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

**907.2.6.1 Group I-1.** An automatic smoke detection system shall be installed in *corridors*, waiting areas open to *corridors* and *habitable spaces* other than *sleeping units* and kitchens. The system shall be activated in accordance with Section 907.4.

EXCEPTIONS:   
 1. For Group I-1 Condition 1 occupancies, smoke detection in *habitable spaces* is not required where the facility is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.  
 2. Smoke detection is not required for exterior balconies.

**907.2.6.4 Group I-4 occupancies.** 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 I-4 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 I-4 occupancies with an occupant load of 50 or less.  
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1. In sleeping areas.
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3. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
4. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

**907.2.11.2 Groups R-2, R-3, R-4, and I-1.** Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4, and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each *loft* constructed in accordance with Section 420.13 of the *International Building Code*.
4. In each story within a *dwelling unit*, including *basements* but not including crawl spaces and uninhabitable attics. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level

shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

**907.5.2.1.2 Maximum sound pressure.** The maximum sound pressure level for audible alarm notification appliances shall be 110 dBA at the minimum hearing distance from the audible appliance. For systems operating in public mode, the maximum sound pressure level shall not exceed 30 dBA over the average ambient sound level. Where the average ambient noise is greater than 95 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

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