



Tentative Interim Amendment

NFPA[®] 1982

Standard on Personal Alert Safety Systems (PASS)

2013 Edition

Reference: Various

TIA 13-2

(SC 16-11-8 / TIA Log #1247)

Pursuant to Section 5 of the NFPA *Regulations Governing the Development of NFPA Standards*, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*, 2013 edition. The TIA was processed by the Technical Committee on Electronic Safety Equipment and the Correlating Committee on the Fire and Emergency Services Protective Clothing and Equipment, and was issued by the Standards Council on December 1, 2016, with an effective date of December 21, 2016

A Tentative Interim Amendment is tentative because it has not been processed through the entire standards-making procedures. It is interim because it is effective only between editions of the standard. A TIA automatically becomes a public input of the proponent for the next edition of the standard; as such, it then is subject to all of the procedures of the standards-making process.

1. Revise 1.1.3 to read as follows:

1.1.3* This standard shall specify the minimum requirements for the design, performance, testing, and certification of PASS or RF PASS devices certified to an earlier edition of this standard that incorporate parts, components, and/or software to meet this edition of the standard.

2. Revise 1.3.1 to read as follows:

1.3.1 This standard shall apply to the design, performance, testing, and certification of PASS or RF PASS devices certified to an earlier edition of this standard that incorporate replacement parts, components, and/or software to be certified to this edition of the standard.

3. Revise 4.2.8.1 to read as follows:

4.2.8.1 The certification organization and the manufacturer shall evaluate replacement parts, components, and software to determine any changes affecting the form, fit, or function of PASS or RF

PASS devices certified to the 2013 or earlier editions of this standard, to permit incorporation of replacement parts, components, or software, leading to certification of devices to this edition of the standard.

4. Add a new section 4.9 to read as follows:

4.9 Manufacturers Upgrade Notification.

4.9.1 Manufacturers shall be required to provide notice of all available upgrades to the AHJ.

5. Add a new paragraph, 5.1.6.1, to read as follows:

5.1.6.1 PASS or RF PASS devices certified to previous editions of this standard that have been upgraded to meet this edition shall have the following statement legibly printed. All letters shall be at least 2 mm (1/16 in.) in height. The label is not restricted to one line. The original NFPA required labeling shall not be removed or covered by the upgrade label.

“PASS ALARM SOUND UPGRADED”

6. Revise 6.4.3.9 to read as follows:

6.4.3.9 The PASS annunciator shall be driven by an alarm sequence consisting of the following eight steps:

- (1) A Type 1 sweep
- (2) A silent period of 300 ms \pm 100 ms
- (3) A Type 2 sweep, repeated a total of four times with a silent period of 10 ms \pm 5 ms between each sweep
- (4) A silent period of 300 ms \pm 100 ms
- (5) A Type 1 warble
- (6) A Type 2 warble
- (7) A Type 1 warble
- (8) A silent period of 600 ms \pm 100 ms

6.4.3.9.1 Following step 8, the alarm sound shall repeat, beginning immediately with step 1.

6.4.3.9.2 Type 1 Sweep. The Type 1 sweep shall be a 1 second \pm 50 ms frequency sweep with a minimum of 100 frequency steps. The start frequency and end frequency shall be in the range of 2000 to 4000 Hz, and the end frequency shall be a minimum of 500 Hz greater than the start frequency.

6.4.3.9.3 Type 2 Sweep. The Type 2 sweep shall be a 250 ms \pm 12.5 ms frequency sweep with a minimum of 25 frequency steps. The start frequency and end frequency shall be in the range of 2000 to 4000 Hz, and the end frequency shall be a minimum of 500 Hz greater than the start frequency.

6.4.3.9.4 Type 1 Warble. The Type 1 warble shall be a 400 ms \pm 20 ms sound that alternates between Tone A and Tone B every 10 ms \pm 5 ms.

6.4.3.9.5 Type 2 Warble. The Type 2 warble shall be a 200 ms \pm 10 ms sound that alternates between Tone B and Tone C every 10 ms \pm 5 ms.

6.4.3.9.6 Tones A, B, and C shall be between 2000 Hz and 4000 Hz.

6.4.3.9.6.1 Tone A. Tone A shall be a frequency between 2300 Hz and 4000 Hz.

6.4.3.9.6.2 Tone B. Tone B shall be a frequency 100 Hz to 200 Hz below Tone A.

6.4.3.9.6.3 Tone C. Tone C shall be a frequency 200 Hz to 300 Hz below Tone B.

7. Revise 7.1.2 to read as follows:

7.1.2 PASS Alarm Signal.

7.1.2.1 PASS shall be tested for the sound pressure level of the alarm signal as specified in Section 8.2, Sound Pressure Level Tests, and shall not have the alarm signal, once activated, be deactivated by the motion detector; shall have the alarm signal sound pressure level not be less than 92 dBA; and shall have PASS function properly as specified in 6.4.3.

7.1.2.2 PASS shall be tested for frequency content as specified in 8.15 and shall have the alarm signals as specified in 6.4.3.9.

8. *Revise Section 7.10 to read as follows:*

7.10 Water Drainage. PASS shall be tested for water drainage as specified in Section 8.11, Water Drainage Test, and the alarm signal sound pressure level shall be at least 92 dBA.

9. *Revise Section 7.11 to read as follows:*

7.11 Heat Resistance. PASS shall be tested for resistance to heat as specified in Section 8.12, High Temperature Functionality Test, and shall not melt, drip, or ignite.

7.11.1 PASS shall be evaluated for proper functioning of signals as specified in 6.4.2.3 and 6.4.3.2.

7.11.2 The sound pressure level shall not be less than 92 dBA.

7.11.3 The data logging functions specified in 6.1.3(1) through 6.1.3(5) shall operate properly.

10. *Revise Section 7.14 to read as follows:*

7.14 Alarm Signal Muffle Test. PASS shall be tested for resistance to sound pressure level deadening or muffling as specified in Section 8.18, PASS Alarm Signal Muffle Test, and the sound pressure level shall not be less than 92 dBA.

11. *Revise 8.2.4.3 to read as follows:*

8.2.4.3 The sound level meter shall meet the requirements of ANSI S1.4 Type 1.

12. *Revise 8.2.5.3 to read as follows:*

8.2.5.3 All sound pressure level measurements for the PASS alarm signal as described in 6.4.3.9 shall be made with the sound level meter set to A-weighting with a fast response time (LAF). The maximum-hold function (if available) shall be permitted to be used to hold the maximum level observed by the meter for the specified period of time. All other sound pressure level measurements, including, but not limited to, the pre-alarm sequence and the low power source warning, shall be made with the sound level meter ballistics set to the peak response setting.

13. *Revise 8.2.8.1 to read as follows:*

8.2.8.1 The sound pressure level for the alarm signal shall be measured in a spherical radius at a distance of 1 m +2.5/-0 cm (3.3 ft +1/-0 in.) from the specimen's annunciator.

14. *Add a new paragraph, 8.2.8.2, and revise and renumber subsequent paragraphs to read as follows:*

8.2.8.2 The specimen shall be mounted on the audio test mannequin in the preferred mounting position and orientation for optimal performance as specified by the manufacturer.

8.2.8.3 Before starting the test, the specimen's power source voltage shall be discharged to the level at which the PASS first emits the low power source warning signal specified in 6.4.4.

8.2.8.4 The power source voltage shall be discharged at a rate that is equal to the average current draw, ± 10 percent, of the same model PASS while in the operational condition that uses maximum current. The rate shall be determined by measurement by the certification organization.

8.2.8.5 The sound pressure level for the alarm signal shall be measured at 60 minutes $+1/-0$ minutes after the start of the test. Five measurements, each for a minimum duration of 6 seconds, shall be taken. The maximum sound pressure level shall be recorded for each measurement. The lowest of the five measurements shall be discarded and the remaining four shall be the sound pressure levels.

8.2.8.6 The sound pressure levels for the PASS alarm signal shall be recorded, evaluated, and reported to determine pass or fail performance.

8.2.8.7 For testing purposes only, manufacturers shall be permitted to reconfigure a PASS device sample to allow external test equipment to access the digital signal being delivered to the sound mechanism/transducer element.

15. Revise 8.12.5.11 to read as follows:

8.12.5.11 The specimen shall remain motionless and be allowed to cycle from sensing mode to alarm mode. When the PASS cycles into the alarm mode, within 30 seconds the sound pressure level for the alarm signal shall be measured in a spherical radius at a distance of 1 m $+2.5/-0$ cm (3.3 ft $+1/-0$ in.) from the specimen's annunciator.

16. Revise 8.18.5.3 to read as follows:

8.18.5.3 All sound pressure level measurements shall be made with the sound level meter set to A-weighting with a fast response time (LAF). The maximum-hold function (if available) shall be permitted to be used to hold the maximum level observed by the meter for the specified period of time. The test subject shall do the following:

- (1) The protective ensemble specified in 8.18.4.3
- (2) The specimen PASS per the manufacturer's instructions

17. Revise 8.18.5.5 to read as follows:

8.18.5.5 The sound pressure level for the alarm signal shall be measured in a spherical radius at a distance of 1 m $+2.5/-0$ cm (3.3 ft $+1/-0$ in.) from the specimen's annunciator.

18. Delete Annex A.6.4.3.9.3 and Figure A.6.4.3.9.3 in their entirety.

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(Note: For further information on NFPA Codes and Standards, please see www.nfpa.org/docinfo)

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