



NATIONAL FIRE PROTECTION ASSOCIATION

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AGENDA

NFPA Technical Committee on Fuel Gases Warning Equipment (FWE-AAA) NFPA 715 First Draft Meeting (A2025)

September 28-29, 2023
10:00 a.m. – 5:00 p.m. (EDT)

Web/Teleconference
To join the meeting, please contact jdepew@nfpa.org

1. **Call to order.** Stephen Olenick.
2. **Introductions/Attendance.** See committee roster attached.
3. **Chair report.** Stephen Olenick.
4. **Staff liaison report.** Patrick Bakaj.
5. **Previous meeting minutes.** February 3, 2023 (Pre-First Draft Meeting)
Web/Teleconference. See attached.
6. **Overview of Standards Development Process.** Patrick Bakaj.
7. **Task Group Reports.**
 - a. Sensitivity Task Group. Bob Vigdor.
 - i. UL 1484/2075 updates/dates – Dave Mills/Howard Hopper
8. **NFPA 715 First Draft.**
 - a. Public Input. See Attached
 - b. Committee Inputs.
9. **Old Business.**
 - a. Pointers/requirements in related codes and standards
 - i. NFPA 72 – Stephen Olenick
 - ii. ICC/NFPA 101 – Richard Roberts/Scott Lang
 - iii. NFPA 54
 - iv. Advocacy for adoption of NFPA 715 in model building codes and/or state codes
 - b. Awareness Bulletin Task Group. Bob Wilson.
 - c. Other updates affecting NFPA 715
 - i. Needed research – Stephen Olenick
10. **New Business.**
 - a. Dismiss any task groups

- b. Formation of new task groups
- c. Other new business

11. Future meetings and dates.

12. Adjournment.

Address List

Fuel Gases Warning Equipment

08/15/2023
Patrick Bakaj
FWE-AAA

Stephen M. Olenick	SE 08/08/2019	Mark S. Boone	I 04/02/2020
Chair Combustion Science & Engineering, Inc. 8940 Old Annapolis Road Suite L Columbia, MD 21045-2129 Alternate: Nasir Hussain	FWE-AAA	Principal AEGIS Insurance Services Limited Metropolitan Center 1 Meadowlands Plaza East Rutherford, NJ 07073	FWE-AAA
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Address List

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Address List

Fuel Gases Warning Equipment

08/15/2023

Patrick Bakaj

FWE-AAA

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Howard Hopper	RT 04/02/2020	Nasir Hussain	SE 04/02/2020
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Stuart Saulters	U 08/08/2019	Kazuaki Watanabe	M 08/08/2019
Alternate American Public Gas Association 201 Massachusetts Avenue NE, Suite C-4 Washington, DC 20002 Principal: Renee M. Lani	FWE-AAA	Alternate Figaro USA Inc. 121 South Wilke Road Suite 300 Arlington Heights, IL 60005 Principal: Ron Lazarus	FWE-AAA
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Staff Liaison National Fire Protection Association One Batterymarch Park Quincy, MA 02169	FWE-AAA		



NATIONAL FIRE PROTECTION ASSOCIATION

The leading information and knowledge resource on fire, electrical and related hazards

MINUTES

NFPA Technical Committee on Fuel Gases Warning Equipment (FWE-AAA) NFPA 715 Pre-First Draft Meeting (A2025)

February 3, 2023
10:00 AM – 11:40 (EST)

Web/Teleconference

1. **Call to order.** Stephen Olenick, chair, called the meeting to order at 10:00 AM on February 3, 2023.
2. **Introductions.** Attendees introduced themselves and identified their affiliation. NFPA staff took attendance.
3. **Chair report.** Stephen Olenick welcomed attendees and provided an overview of the meeting.
4. **Staff liaison report.** Patrick Bakaj provided comments.
5. **Previous meeting minutes.** The minutes from September 30th, October 1st and October 4th, 2021, Web/Teleconference were approved without revision.
6. **NFPA 715 Pre-First Draft Discussion** Stephen Olenick, chair, welcomed everyone and began discussion on the upcoming revision cycle.
 - a. Discussed including pointers or requirements to NFPA 715 in related codes and standards including NFPA 72, NFPA 101, NFPA 54, and the ICC Codes.
 - b. Discussed updates to sensitivity percentage in UL1484. A task group was created to investigate this and provide public inputs prior to the First Draft Meeting.
 - c. Discussed adoption and usage of NFPA 715.
 - d. Discussed whether any research was needed for revisions of NFPA 715 and potentially reaching out to the Fire Protection Research Foundation.
 - e. **New task groups.** The following task groups were appointed to work subsequent to the meeting:
 - i. **Sensitivity Task Group.** TG Chair: Bob Vigdor. Members: David Mills, Jason Frank, Scott Lang, Christopher Wagner, Larry Ratzlaff, Bob Wilson, Kazuaki Watanabe. Further explore if public input should be made to reduce the sensitivity requirement in NFPA 715 from 25% to 10% to match UL 1484 and submit public input prior to the first draft meeting if deemed necessary.

- ii. **Awareness Bulletin Task Group.** TG Chair: Bob Wilson. Members: Christopher Wagner, Renee Lani, Rick Trieste, Karen Crippen, Luis Escobar, Kazuaki Watanabe, James Loftus, Bruce Sweicicki. Exploring safety bulletin or other education materials for the public.
7. **Other Business.** Bob Wilson discussed creating an awareness bulletin for gas detection; a task group was created to explore this.
8. **Future meetings.** The next committee meeting will be prior to November 9, 2023. A meeting notification will be posted at www.nfpa.org/715next when the meeting is scheduled.
9. **Adjournment.** The meeting was adjourned at 11:40 AM on February 3, 2023.

Attendees

Committee Members:

X	Olenick, Stephen	Chair	Combustion Science & Engineering, Inc.
	Boone, Mark	Principal	AEGIS Insurance Services Limited
X	Crippen, Karen	Principal	Gas Technology Institute
	Dearing, Nick	Principal	CenterPoint Energy
X	Escobar, Luis	Principal	American Gas Association
X	Frank, Jason	Principal	National Aeronautics & Space
	Gandhi, Murtaza	Principal	BakerRisk Engineering & Risk
X	Gray, Amy	Principal	Engineering Systems, Inc. (ESi)
	Heffernan, Rick	Principal	National Electrical Manufacturers
X	Ibrahim, Fatima	Principal	JENSEN HUGHES
X	Klinkhardt, Jeffrey	Principal	Kiewit
X	Lani, Renee	Principal	American Public Gas Association
	Lazarus, Ron	Principal	New Cosmos USA
X	Loftus, Jim	Principal	Automatic Fire Alarm Association, Inc.
X	Lynch, James	Principal	The Fire Solutions Group
X	Mills, David	Principal	UL LLC
X	Ratzlaff, Larry	Principal	Carrier/UTC
X	Roberts, Richard	Principal	Honeywell Fire Safety
	Ryder, Noah	Principal	Fire & Risk Alliance
X	San, De	Principal	SoCalGas
	Sipe, Joel	Principal	Exponent, Inc.
X	Swiecicki, Bruce	Principal	National Propane Gas Association

X	Torbin, Robert	Principal	Omega Flex, Inc.
X	Trieste, Rick	Principal	Consolidated Edison Company of NY
X	Vigdor, Bob	Principal	Nevada Nanotech Systems
X	Wagner, Christopher	Principal	AmeriGas Propane
X	Williams, Ted	Principal	Natural Gas Direct, LLC.
X	Wilson, Robert	Principal	Northeast Gas Association
	Woznicki, Mike	Principal	USI Electric
X	Aho, Wayne	Alternate	National Electrical Manufacturers
X	Bellini, Glen	Alternate	Automatic Fire Alarm Association, Inc.
X	Hopper, Howard	Alternate	UL LLC
X	Hussain, Nasir	Alternate	Combustion Science & Engineering, Inc.
	Jordan, Stephen	Alternate	Fire And Risk Alliance LLC
X	Lang, Scott	Alternate	Honeywell International
	Saulters, Stuart	Alternate	American Public Gas Association
X	Watanabe, Kazuaki	Alternate	Figaro USA Inc.
X	Bakaj, Patrick	Staff Liaison	National Fire Protection Association

Guests:

Chad Duffy	NFPA Staff
Steve Kaitharath	NFPA Staff
Mark Dippner	Compliance Engineer/RSO, BRK Brands, Inc
David Buddingh	MTI Industries - manufacturer of gas alarms
Greg McGuigan	Fire & Risk Alliance

Total number in attendance: 33



Public Input No. 11-NFPA 715-2023 [Section No. 2.3.6]

2.3.6 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 1484, *Residential Gas Detectors*, 2016, revised 2022 .

UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, ~~2016~~ 2023 .

UL 1971, *Signaling Devices for the Hearing Impaired*, 2002, revised 2018.

UL 2075, *Gas and Vapor Detectors and Sensors*, ~~2017~~ 2013, revised 2023 .

Statement of Problem and Substantiation for Public Input

Update UL standards to the current edition and revision.

Submitter Information Verification

Submitter Full Name: Kelly Nicoletto

Organization: UL Solutions

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State:

Zip:

Submittal Date: Thu Jun 01 10:49:24 EDT 2023

Committee: FWE-AAA



Public Input No. 10-NFPA 715-2023 [Section No. 5.8.5.3.1]

5.8.5.3.1

Fuel gas detectors shall be installed as specified in the manufacturer's published instructions and in accordance with the following:

A. Fuel gas detectors that alarm between 10 and 25 percent LEL shall be installed in accordance with 5.8.5.3.1(1) or 5.8.5.3.1(2), and with 5.8.5.3.1(3) through 5.8.5.3.1(6) or with 5.8.5.3.1(7).

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- (1)* For natural gas, the detector shall be installed on the ceiling or on the wall with the top of the detector within 12 in. (305 mm) of the ceiling in the same room as permanently installed fuel-gas-burning appliances.
- (2)* For liquefied petroleum gas (LP-Gas), the entire detector shall be installed on the wall within 18 in. (457 mm) of the floor in the same room as permanently installed fuel-gas-burning appliances.
- (3)* Detectors shall be installed more than 3 ft (914 mm) but no further than 10 ft (3 m) in a horizontal flow path from permanently installed fuel-gas-burning appliances.
- (4) Detectors shall not be installed in locations directly in the airstream of supply and return registers or directly above doorway openings.
- (5)* Detectors shall be installed in basements or other subgrade rooms with foundation penetrations that might convey migrating fuel gas leaks from outside the occupancy.
- (6) Combination fuel gas/carbon monoxide detectors that are an integral part of a carbon monoxide detector shall be located in accordance with the requirements for the applicable fuel gases being sampled.
- (7) Detectors shall be installed based on a performance-based design in accordance with 5.8.5.3.2.

B. Fuel gas detectors that alarm up to 5 percent LEL shall be installed in accordance with 5.8.5.3.1(8) or 5.8.5.3.1(9), and with 5.8.5.3.1(10) through 5.8.5.3.1(13):

(8) For natural gas, one detector shall be installed on the ceiling or on the wall with the top of the detector no closer than 12 in. (305 mm) of the ceiling on the same floor level as permanently installed fuel gas burning appliances.

(9) For liquefied petroleum gas (LP-Gas), one detector shall be installed on the wall within 18 in. (457 mm) of the floor on the same floor level as permanently installed fuel gas burning appliances.

(10) The detector shall be installed in an open area not closer than 36 in. (915 mm) of any permanently installed fuel gas burning appliances.

(11) Detectors shall not be installed in locations directly in the airstream of supply and return registers or directly above doorway openings.

(12) One detector shall be installed in the basement or other subgrade room with below-grade foundation penetrations that might convey migrating fuel gas leaks from outside the occupancy or as required by 5.8.5.3.1(8 or 9) above.

(13) Combination fuel gas/carbon monoxide detectors that are an integral part of a carbon monoxide detector shall be located in accordance with the requirements for the applicable fuel gas being sampled.

Statement of Problem and Substantiation for Public Input

NFPA fire statistics for home fires due to flammable gases do not support the contention that each gas appliance needs its own fuel gas detector. Rather, only the cooking and space and water heating

equipment warrant a required fuel gas detector. Furthermore, over 25 % of home fuel gas fires are due to piping leaks and breaks which can occur in other portions of the home away from gas appliances. Based on recent research, computer simulations and physical testing, a single detector per floor will suffice coupled with lower detections levels (1 to 5 % LEL) rather than one at each and every appliance. The detection of fuel gas at these extremely low LEL levels will still provide the occupants with ample time to be alerted and safely vacate the premises. The research indicates that detection at these lower levels of LEL will minimize false positive alarms, provide even more time to be alerted, and allow more flexibility in the mounting location for these detectors.

Submitter Information Verification

Submitter Full Name: Robert Torbin

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Submittal Date: Tue May 30 21:09:46 EDT 2023

Committee: FWE-AAA



Public Input No. 9-NFPA 715-2023 [Section No. 5.8.5.3.1]

5.8.5.3.1

Fuel gas detectors shall be installed as specified in the manufacturer's published instructions in accordance with 5.8.5.3.1(1) or 5.8.5.3.1(2), and with 5.8.5.3.1(3) through 5.8.5.3.1(6) or with 5.8.5.3.1(7):

- (1)* For natural gas, ~~the one~~ detector shall be installed on the ceiling or on the wall with the top of the detector within 12 in. (305 mm) of the ceiling ~~in on~~ on the same room floor level as permanently installed fuel-gas-burning appliances.
- (2)* For liquefied petroleum gas (LP-Gas), ~~the entire one~~ detector shall be installed on the wall within 18 in. (457 mm) of the floor ~~in on~~ on the same room floor level as permanently installed fuel-gas-burning appliances.
- (3)* ~~Detectors shall be installed more than 3 ft (914 mm) but no further than 10 ft (3 m) in a horizontal flow path from~~ The detector shall be installed in an open area and at least 3 ft (914 mm) from permanently installed fuel-gas-burning appliances.
- (4) Detectors shall not be installed in locations directly in the airstream of supply and return registers or directly above doorway openings.
- (5)* ~~Detectors shall~~ One detector shall be installed in ~~basements or the basement or other subgrade rooms with~~ room with below-grade foundation penetrations that might convey migrating fuel gas leaks from outside the occupancy or as required by 5.8.5.3.1(1 or 2) above.
- (6) Combination fuel gas/carbon monoxide detectors that are an integral part of a carbon monoxide detector shall be located in accordance with the requirements for the applicable fuel gases being sampled.
- (7) Detectors shall be installed based on a performance-based design in accordance with 5.8.5.3.2.

Statement of Problem and Substantiation for Public Input

NFPA fire statistics for home fires due to flammable gases do not support the contention that each gas appliance needs its own fuel gas detector. Rather, only the cooking and space and water heating equipment warrant a required fuel gas detector. Furthermore, over 25 % of home fuel gas fires are due to piping leaks and breaks which can occur in other portions of the home away from gas appliances. Therefore, a single detector per floor will suffice coupled with lower detections levels (10 to 25 LEL) rather than one at each and every appliance. The detection of fuel gas at these extremely low LEL levels will still provide the occupants with ample time to be alerted and safely vacate the premises. Other research indicates that detection at even lower levels of LEL will minimize false positive alarms, provide even more time to be alerted, and allow more flexibility in the mounting location for these detectors.

Submitter Information Verification

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Submittal Date: Tue May 30 20:49:28 EDT 2023

Committee: FWE-AAA



Public Input No. 5-NFPA 715-2022 [Sections 5.8.5.3.3.1, 5.8.5.3.3.2]

Sections 5.8.5.3.3.1, 5.8.5.3.3.2

5.8.5.3.3.1*

Each fuel gas detector shall be ~~designed to alarm at a concentration threshold at or below 25 percent LEL and be~~ listed in accordance with UL 2075, *Gas and Vapor Detectors and Sensors*.

5.8.5.3.3.2*

Each fuel gas detector shall be designed to ~~alarm at a concentration threshold at or below 25 percent LEL and~~ meet the sensitivity testing and alarm thresholds of UL 1484, *Residential Gas Detectors*.

Statement of Problem and Substantiation for Public Input

The 25% alarm threshold was added by the TC to accommodate Annex language that expressed even though a 25% alarm threshold is specified, a 10% alarm threshold was warranted due to its value to enhance safety. UL1484 at time of original issuance of this standard specified a 25% LEL alarm threshold and after NFPA 715 original issuance, was revised to specify a 10% LEL alarm threshold. This standard requires compliance to UL1484 per 5.8.5.3.3.2 and thus 10% alarm threshold is adopted by reference negating need to specify alarm threshold in this standard.

A 10% alarm threshold is supported by the following two reports:

1. Report by the Fire Protection Research Foundation "Combustible Gas Dispersion in Residential Occupancies & Detector Location Analysis", 10/2020 where report provides data that indicates an alarm set point of 10% LEL vs 25% LEL alarms faster. This provides an improvement to alerting occupants sooner to a natural gas leak.
2. Report by Fire Risk Alliance, LLC for NYSEARCH "Study for Natural Gas Dispersion & Detection in Residential Environments" where report provides data that indicates an alarm set point of 10% LEL vs 25% LEL not only alarms faster, in some cases alarmed with 60 minutes vs. a 25% alarm point did not alarm, installed at the same location and leak source.

Submitter Information Verification

Submitter Full Name: Rick Trieste

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Submittal Date: Wed Aug 24 16:00:13 EDT 2022

Committee: FWE-AAA



Public Input No. 8-NFPA 715-2022 [Section No. 9.4.1]

9.4.1* Fuel Gas Alarms and Detectors.

The warning functions intended in this standard shall be performed by single- or multiple-station alarms or by detectors connected to a control unit and associated equipment, in accordance with 9.3.3.

9.4.1.1*

Fuel gas alarms or detectors shall be installed in other than ancillary buildings as follows:

- (1) * Alarms or detectors shall be installed more than 3 ft (914 mm) but no further than 10 ft (3 m) in a horizontal flow path from permanently installed fuel-gas-burning appliances.
- (2) Alarms or detectors shall be installed in basements or other subgrade rooms of buildings served by fuel gas service, where the point of entry is below grade.
- (3) * Alarms or detectors shall be installed in attached garages where the fuel gas point of delivery or fuel-burning equipment is installed within the garage.
- (4) * Where interconnection of alarms is required by 9.6.4, alarms shall be located outside of each separate sleeping area in the immediate vicinity of the bedroom.
- (5) Alarms or detectors shall not be installed in locations directly in the airstream of supply and return registers or directly above doorway openings.
- (6) Alarms or detectors shall be installed in other locations where required by applicable laws, codes, or standards

9.4.1.2

Each fuel gas alarm or detector shall be located on the wall, ceiling, or other location as specified in the manufacturer's published instructions as follows:

- (1) * For natural gas, the gas alarm or detector shall be installed on the ceiling or on the wall with the top of the alarm or detector within 12 in. (305 mm) of the ceiling.
- (2) * For liquefied petroleum gas (LP-Gas), the entire gas alarm or detector shall be installed on the wall within 18 in. (457 mm) of the floor.
- (3) Combination fuel gas/carbon monoxide alarms and detectors that are an integral part of a carbon monoxide detector or carbon monoxide alarm shall be located in accordance with the requirements for the applicable fuel gases being sampled.

Statement of Problem and Substantiation for Public Input

Currently, there are recommendations for smoke alarms that dictate a general coverage range (21-foot radius for a circle), and that smoke alarms should not be installed more than 30 feet apart in large rooms. Similar recommendations should be developed for fuel gas alarms and detectors, based upon empirical data and studies on the propagation of natural gas and propane in large rooms, warehouses, or hallways.

Because there are more obstructions at the level for which propane alarms should be installed, there would likely be different recommendations for natural gas alarms and propane alarms. Both recommendations should be added to the next edition of NFPA 715.

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Submittal Date: Thu Sep 29 11:47:28 EDT 2022
Committee: FWE-AAA



Public Input No. 7-NFPA 715-2022 [Section No. 9.4.1.1]

9.4.1.1*

Fuel gas alarms or detectors shall be installed in other than ancillary buildings as follows:

- (1) * Alarms or detectors shall be installed more than 3 ft (914 mm) but no further than 10 ft (3 m) in a horizontal flow path from permanently installed fuel-gas-burning appliances.
- (2) Alarms or detectors shall be installed in basements or other subgrade rooms of buildings ~~served by fuel gas service, where the point of entry is below grade .~~
- (3) * Alarms or detectors shall be installed in attached garages where the fuel gas point of delivery or fuel-burning equipment is installed within the garage.
- (4) * Where interconnection of alarms is required by 9.6.4, alarms shall be located outside of each separate sleeping area in the immediate vicinity of the bedroom.
- (5) Alarms or detectors shall not be installed in locations directly in the airstream of supply and return registers or directly above doorway openings.
- (6) Alarms or detectors shall be installed in other locations where required by applicable laws, codes, or standards

Statement of Problem and Substantiation for Public Input

It seems self-evident that fuel gas detection in a residence will only be installed if the residence is served by fuel gas service. If the Committee agrees, there is no need for the "served by fuel gas service". Additionally, this clause does not appear in 5.8.5.3.1(5). If not removed here, should it be added to 5.8.5.3.1(5). If this clause is removed here, should the annex material be added back in that was removed at the 2023 edition second draft meeting? It could be copied back from A.5.8.5.3.1(5) if necessary.

It also seems unnecessary for gas detection in basements to only be if the point of entry is below grade. Fuel gas can be piped from the street, underground, right up to the residence and then come out of the ground, go into the meter, and enter in the residence. This would be a point of entry above grade, so no detection would be needed in the basement. But there have been incidents where the gas can still leak from the below grade piping and travel underground and enter into the basement. Therefore, I have recommended removing the portion about the point of entry. If the Committee disagrees, perhaps it should instead be considered to add such a clause to 5.8.5.3.1(5) if appropriate to harmonize the requirements for Protected Premises (commercial - Chapter 5) and Residential (Chapter 9).

Submitter Information Verification

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Submittal Date: Thu Sep 01 10:15:38 EDT 2022
Committee: FWE-AAA



Public Input No. 2-NFPA 715-2022 [Section No. 9.6.1.2]

9.6.1.2* Alarm Threshold.

9.6.1.2.1*

Fuel gas ~~alarms and detectors shall be designed to alarm at a concentration at or below 25 percent LEL.~~

~~9.6.1.2.2 –~~

~~Fuel gas detectors~~ that are part of a household gas detection system shall be listed in accordance with UL 2075, *Gas and Vapor Detectors and Sensors*.

9.6.1.2.3 – 2 *

Fuel gas alarms shall be listed in accordance with UL 1484, *Residential Gas Detectors*.

9.6.1.2.4 3

Fuel gas alarms and detectors shall be marked in accordance with their listing.

Statement of Problem and Substantiation for Public Input

The 25% alarm threshold was added by the TC to accommodate Annex language that expressed even though a 25% alarm threshold is specified, a 10% alarm threshold was warranted due to its value to enhance safety. UL1484 at time of original issuance of this standard specified a 25% LEL alarm threshold and subsequent to NFPA 715 original issuance, was revised to specify a 10% LEL alarm threshold. This standard requires compliance to UL1484 per 9.6.1.1 and thus 10% alarm threshold is adopted by reference negating need to specify alarm threshold in this standard.

A 10% alarm threshold is supported by the following two reports:

1. Report by the Fire Protection Research Foundation “Combustible Gas Dispersion in Residential Occupancies & Detector Location Analysis”, 10/2020 where report provides data that indicates an alarm set point of 10% LEL vs 25% LEL alarms faster. This provides an improvement to alerting occupants sooner to a natural gas leak.
2. Report by Fire Risk Alliance, LLC for NYSEARCH “Study for Natural Gas Dispersion & Detection in Residential Environments” where report provides data that indicates an alarm set point of 10% LEL vs 25% LEL not only alarms faster, in some cases alarmed with 60 minutes vs. a 25% alarm point did not alarm, installed at the same location and leak source.

The * was added to new 9.6.1.2.1 (formerly 9.6.1.2.2) to associate existing A.9.6.1.2.1 applicable to section requirement. The * was added to new 9.6.1.2.2 (formerly 9.6.1.2.3) to associate existing A.9.6.1.2.1 applicable to section by Public Input #4.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 4-NFPA 715-2022 [New Section after A.9.6.1.2.1]	

Submitter Information Verification

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Submittal Date: Tue Aug 23 13:55:02 EDT 2022

Committee: FWE-AAA



Public Input No. 6-NFPA 715-2022 [Section No. A.5.8.5.3.3]

A.5.8.5.3.3 — [Link](#)

Subparagraph 5.8.5.3.3 requires a maximum fuel gas detection threshold of 25 percent LEL, but also will accept listed detectors with lower detection thresholds, including 10 percent LEL detectors. Using detectors with lower LEL detection thresholds should provide faster detection response. Currently, natural gas detectors are commercially available that are listed with a 10 percent LEL detection threshold. Listed liquefied petroleum gas (LP-Gas) gas detectors with a detectable level at 10 percent LEL are not as readily available to the public market as natural gas detectors.

Due to the current listing standards, there is not uniform adoption of 10 percent LEL detection for all fuel gas detectors. Until manufacturers are required by the test standard to meet this higher level of sensitivity to obtain a listing, up to 25 percent LEL detection is allowed. Based on the scientific studies, it is recommended that a 10 percent LEL detector is used when available.

Statement of Problem and Substantiation for Public Input

The 25% alarm threshold criteria is no longer applicable by the revision of UL1484 adopting a 10% LEL alarm threshold post issuance of NFPA 715.

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Public Input No. 3-NFPA 715-2022 [Section No. A.9.6.1.2]

A.9.6.1.2 — [🔗](#)

Paragraph 9.6.1.2 requires a maximum fuel gas detection threshold of 25 percent LEL, but also will accept listed detectors and alarms with lower detection thresholds, including 10 percent LEL detectors and alarms. Using detectors and alarms with lower LEL detection thresholds should provide faster detection response. Currently, natural gas detection equipment is commercially available that is listed with a 10 percent LEL detection threshold. Listed liquefied petroleum gas (LP-Gas) detection equipment with a detectable level at 10 percent LEL is not as readily available to the public market as natural gas detection equipment.

Due to the current listing standards, there is not uniform adoption of 10 percent LEL detection for all fuel gas detectors and alarms. Until manufacturers are required by the test standard to meet this higher level of sensitivity to obtain a listing, up to 25 percent LEL detection is allowed. Based on the scientific studies, it is recommended that a 10 percent LEL detector or alarm is used when available.

Statement of Problem and Substantiation for Public Input

Public Input #2 removed asterisk. This Annex was added by the TC to accommodate language that expressed a 10% alarm threshold was warranted. UL1484 originally specified a 25% LEL alarm threshold and subsequent to NFPA 715 original issuance was revised to specify a 10% LEL alarm threshold. This standard requires compliance to UL1484 per 9.6.1.1 and thus 10% alarm threshold is adopted by reference negating need to specify alarm threshold in this standard.

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Public Input No. 4-NFPA 715-2022 [New Section after A.9.6.1.2.1]

A.9.6.1.2.2

See A.9.6.1.2.1

Statement of Problem and Substantiation for Public Input

A.9.6.1.2.1 discusses rationale for UL2075 and UL1484. UL2075 is specified in 9.6.1.2.1 and UL1484 is specified in 9.6.1.2.2.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 2-NFPA 715-2022 [Section No. 9.6.1.2]</u>	by reference

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Committee: FWE-AAA



Public Input No. 12-NFPA 715-2023 [Section No. D.1.2.8]

D.1.2.8 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 217, *Smoke Alarms*, 2020.

UL 1484, *Residential Gas Detectors*, 2016, revised 2022 .

UL 2075, *Gas and Vapor Detectors and Sensors*, ~~2017~~ 2013, revised 2023 .

Statement of Problem and Substantiation for Public Input

Update UL standards to the current edition and revision.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 11-NFPA 715-2023 [Section No. 2.3.6]</u>	

Submitter Information Verification

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Submittal Date: Thu Jun 01 10:51:19 EDT 2023

Committee: FWE-AAA