First Revision No. 9-NFPA 496-2021 [Detail]

Add Annex to 4.5.5

A.4.5.5

It is essential that power to the protective gas supply be activated regardless of whether there is power to the protected enclosure and the equipment within the enclosure.

Submitter Information Verification

Committee: EEC-AAA

Submittal Date: Mon Oct 11 12:17:46 EDT 2021

Committee Statement

Committee Statement: The addition of the annex material clarifies that the power to the protective gas supply must be activated for either 4.5.5(1) or 4.5.5(2).

Response Message: FR-9-NFPA 496-2021

Public Input No. 2-NFPA 496-2021 [New Section after A.4.5.4]

Public Input No. 1-NFPA 496-2021 [Section No. 4.5.5]

First Revision No. 3-NFPA 496-2021 [Chapter 2]

Chapter 2 Referenced Publications

2.1* General.

The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 70®, National Electrical Code®, ~~2020~~ 2023 edition.

2.3 Other Publications.

2.3.1 ~~ISA~~ UL Publications.

~~International Society of Automation, 67 T.W. Alexander Drive, P.O. Box 12277, Research Triangle Park, NC 27709.~~ Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

~~ANSI/ISA~~ UL 60079-29-1, *Standard for Explosive Atmospheres — Part 29-1: Gas detectors — Performance requirements of detectors for flammable gases*, 2019.

2.3.2 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA 70®, National Electrical Code®, 2020 edition.

Supplemental Information

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Submitter Information Verification

Committee: EEC-AAA

Submittal Date: Mon Oct 04 13:58:36 EDT 2021

Committee Statement

Committee Statement: References are required to be updated to the latest revisions per the NFPA Manual of Style.

Response Message: FR-3-NFPA 496-2021

First Revision No. 7-NFPA 496-2021 [Section No. 7.2.3]

7.2.3*

The source of air shall be both of the following: ~~be determined from the nature of the process and the physical layout but shall not be from a classified location.~~

(1) ~~determined~~ Determined from the nature of the process and the physical layout

(2) ~~from a classified~~ From an unclassified location

Submitter Information Verification

Committee: EEC-AAA

Submittal Date: Wed Oct 06 15:51:23 EDT 2021

Committee Statement

Committee Statement: As stated in the NEC Part III, an Unclassified Location is a defined term which is neither neither Class I, Division 1; Class I, Division 2; Zone 0; Zone 1; Zone 2; Class II, Division 1; Class II, Division 2; Class III, Division 1; Class III, Division 2; Zone 20; Zone 21; Zone 22; nor any combination thereof. This change corrects the intent for the location selected for source of air.

Response Message: FR-7-NFPA 496-2021

First Revision No. 8-NFPA 496-2021 [Section No. 7.4.1.1]

7.4.1.1

Doorways or other openings that are used solely for infrequent movement of equipment in or out of pressurized control rooms or analyzer rooms shall be permitted to remain closed where all of the following conditions are met:

(1) The control room is under management control.

(2) The doors are marked to restrict use.

(3) The doors are not used for egress.

(4) The doors are secured in the closed position.

(5) An airlock meets the following requirements:

(a) Ignitible vapor hazards shall be addressed by one of the following:

i. Ventilation with a continuous flow of clean air equivalent to at least 6 volumes of the airlock per hour

ii. Gas detectors installed within the airlock arranged to alarm at 25 percent of the limiting value

(b)* Each door of the airlock shall be fitted with a device to indicate when both doors are not closed.

A.7.4.1.1(5)(b)

An additional indication is recommended.

(c) All electrical equipment within the airlock shall be suitable for the hazardous area classification of the area without pressurization required external to the room.

(d) Warning signs shall be viewable upon entry or egress that indicate that one door must be closed before the other is open.

(e) The airliock shall be marked with the following: “WARNING – Verify other door is closed before opening this door.”

Submitter Information Verification

Committee: EEC-AAA

Submittal Date: Wed Oct 06 15:54:30 EDT 2021

Committee Statement

Committee Statement: The term ‘airlock’ is an industry recognized term. As defined in IEC 60079-13 section 3 Terms, it is defined as “means of egress, consisting of two interdependent doors designed to maintain the internal pressure of the room in order to prevent or significantly reduce the entry of a surrounding explosive atmosphere”. NFPA 496 currently does not address having an airlock as a means of egress. However, there is no technical justification for not permitting this design to be used. Therefore, this section in NFPA 496 is revised to provide this capability.

Response Message: FR-8-NFPA 496-2021

First Revision No. 4-NFPA 496-2021 [Chapter B]

Annex B Informational References

B.1 Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

B.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 30, *Flammable and Combustible Liquids Code*, ~~2021~~ 2024 edition.

NFPA 69, *Standard on Explosion Prevention Systems*, ~~2019~~ 2024 edition.

NFPA 497, *Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*, ~~2021~~ 2024 edition.

NFPA 499, *Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*, ~~2021~~ 2024 edition.

B.1.2 Other Publications.

B.1.2.1 CSA Publications.

CSA Group, 178 Rexdale Boulevard, Toronto, ON M9W 1R3, Canada. www.csagroup.org.

CSA C22.2 NO. 94.1, *Enclosures for electrical equipment, nonenvironmental considerations*, 2015 (reaffirmed 2020) .

CSA C22.2 NO. 94.2, *Enclosures for electrical equipment, environmental considerations*, ~~2015~~ 2020 .

B.1.2.2 IEC Publications.

International Electrotechnical Commission, 3, rue de Varembé, P.O. Box 131, CH-1211 Geneva 20, Switzerland.

ANSI/IEC 60529, *American National Standard for Degrees of Protection Provided by Enclosures*, ~~2011~~ 2020 .

ISO/IEC 80079-20-1, *Explosive atmospheres — Part 20-1: Material characteristics for gas and vapor classification — Test methods and data*, 2017.

B.1.2.3 NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Arlington, VA 22209.

ANSI/NEMA 250, *Enclosures for Electric Equipment (1000 Volts Maximum)*, ~~2014~~ 2020 .

B.1.2.4 UL Publications.

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

UL 50, *Enclosures for Electrical Equipment, Non-Environmental Considerations*, 2015, revised 2020 .

UL 50E, *Enclosures for Electrical Equipment, Environmental Considerations*, ~~2015~~ 2020 .

UL 94, *Tests for Flammability of Plastic Materials for Parts in Devices and Appliances*, 2013, revised ~~2018~~ 2021 .

B.2 Informational References.

The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

B.2.1 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM E659, *Standard Test Method for the Autoignition Temperature of ~~Liquid~~ Chemicals*, 2015.

B.2.2 IEC Publications.

International Electrotechnical Commission, 3, rue de Varembé, P.O. Box 131, CH-1211 Geneva 20, Switzerland.

IEC 60079-2, *Explosive atmospheres — Part 2*: *Equipment protection by pressurized enclosures "p,"* 2014.

IEC 60079-13, *Explosive atmospheres — Part 13: Equipment protection by pressurized room "p," and artificially ventilated room "v,"*~~2010~~ 2017 .

B.2.3 Other Publications.

Dorsett, H. G., et al., 1960. *Laboratory Equipment and Test Procedures for Evaluating Explosibility of Dusts* [Washington DC]: ~~U.S.~~ US Department of Interior, Bureau of Mines.

McCarron, R. 1969. *Electrical Safety Practices*, Monograph 112. "Report of an Investigation of the Effect of Internal Arcing Versus External Spot Temperatures of Metal Instrument Cases," International Society of Automation (ISA) (formally Instrument Society of America (Instrumentation, Systems and Automation Society).

Magison, Ernest. 1998. *Electrical Instruments in Hazardous Locations*, 4th Edition. International Society of Automation (ISA) (formally Instrumentation, Systems and Automation Society), Research Triangle Park, NC.

McMillan, A. 1998. *Electrical Installations in Hazardous Areas*. Butterworth-Heinemann, Woburn, MA.

Perry, R. H., and D. Green. 1984. *Chemical Engineer's Handbook*, 7th Edition. McGraw-Hill, New York, NY.

Schram, P. J., Benedetti, R. P., and Earley, M. W. 2009. *Electrical Installations in Hazardous Locations*, 3rd Edition. NFPA, Quincy, MA.

Zenz, F. A., and D. F. Othmer. 1960. *Fluidization and Fluid Particle Systems*. Reinhold.

B.3 References for Extracts in Informational Sections. (Reserved)

Supplemental Information

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496_FR-4_Annex_B.doc.docx	For Staff Use.	

Submitter Information Verification

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Committee Statement

Committee Statement: NFPA Manual of Style requires updated references with each revised standard.

Response Message: FR-4-NFPA 496-2021

Public Input No. 3-NFPA 496-2021 [Section No. B.1.2.4]