INTERPRETATION IC 15-2022-17 OF
ANSI/ASHRAE STANDARD 15-2022
SAFETY STANDARD FOR REFRIGERATION SYSTEMS

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Request from: Richard L. Pavlak (Pavlak.rick@gmail.com), 8291 Rhine Way, Centerville, OH 45458. (Phone: 937-609-2868)

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 15-2022, Sections 7.2.3.1., 9.12.1.5, and 9.12.2.2, regarding exempted spaces and ventilated shafts.

Background: When AHJs are reviewing projects, they must determine whether spaces that contain only refrigerant piping qualify as an exempted space per Section 7.2.3.1.1. AHJs must also decide if the refrigerant piping requires a shaft as required per Section 9.12.1.5. Unfortunately, if the two sections are viewed separately, they may create conflict.

Standard 15-2022 states:

> **7.2.3.1.1 Exempted Spaces.** The areas that contain only continuous *refrigerant piping*, or contain only joints and connections that have been tested in accordance with Section 9.13, are exempt from the *effective dispersal volume* calculation unless these areas are part of *connected spaces* per Section 7.2.3.2.

This section recognizes if the refrigerant pipe is continuous or tested per Section 9.13, then any expected refrigerant leak would not be sufficient to present a hazard requiring mitigation.

Section 9.12.1.5. requires a shaft in the event piping passes through two or more floors.

If the piping contains A2L refrigerant, then Section 9.12.2.2 requires ventilation as follows:

> **9.12.2.2 Shaft Ventilation.** *Refrigerant* pipe shafts with systems using only Group A2L or B2L *refrigerants shall* be naturally or mechanically ventilated. *Refrigerant* pipe shafts with one or more systems using any Group A2, A3, B2, or B3 *refrigerant shall* be continuously mechanically ventilated and *shall* include a *refrigerant detector*. The shaft ventilation exhaust outlet *shall* comply with the discharge location requirement *specified* in Section 9.7.8.2.
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> a. Naturally ventilated shafts *shall* have a minimum of a 4.0 in. (102 mm) diameter pipe, *duct*, or conduit that connects at the lowest point of the shaft and connects to the outdoors. The pipe, *duct*, or conduit *shall* be level or pitched down to the outdoors. A *makeup air* opening *shall* be provided at the top of the shaft.
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> b. When active, mechanically ventilated shafts *shall* have a minimum air velocity in accordance with Table 9-12. *Makeup air shall* be provided at the inlet to the shaft for mechanically ventilated shafts. The mechanical ventilation *shall* either be continuously operated or, for pipe shafts containing only systems using Group A2L or B2L *refrigerants*, activated by a *refrigerant*

detector. *Refrigerant* pipe shafts utilizing a *refrigerant detector shall* have a set point not exceeding the *occupational exposure limit* (*OEL*) of the *refrigerant*. The detector, or a sampling tube that draws air to the detector, *shall* be located in an area where *refrigerant* from a leak will concentrate.

c. The shaft *shall not* be required to be ventilated for double-wall *refrigerant* pipe where the interstitial space of the double-wall pipe is vented to the outdoors in accordance with the discharge location requirements *specified* in Section 9.7.8.2.

This section addresses the concern of leaking refrigerant accumulating in a tightly constructed fire rated shaft. If this were to occur, it may create a possible safety hazard. This concern is addressed by using one of the three mitigations described.

Interpretation No.1: Where refrigerant piping, as well as joints and connections that have been tested in accordance with Section 9.13, is located within a refrigerant pipe shaft that is not part of a connected space, the pipe shaft volume is exempt from the effective dispersal volume determination in accordance with Section 7.2.3.1.1.

Question No.1: Is this Interpretation correct?

Answer No.1: Yes

Comments No.1: Note that Addendum a to the 2024 edition of Standard 15 makes changes to these sections.

Interpretation No.2: Where the pipe shaft in Interpretation No. 1 contains only continuous piping with Group A2L or other flammable refrigerants, ventilation of the pipe shaft in accordance with 9.12.2.2 is not required.

Question No.2: Is this Interpretation correct?

Answer No.2: No

Comments No.2: Compliance to Section 9.12.2.2 is mandatory where a refrigerant pipe shaft is used, whether the use of a pipe shaft was voluntary or mandatory to comply with Section 9.12.1.5. Note that Addendum a to the 2024 edition of Standard 15 makes changes to these sections.

Interpretation No.3: Where the pipe shaft in Interpretation No. 1 contains piping with only joints and connections that have been tested in accordance with Section 9.13, and contains Group A2L or other flammable refrigerants, ventilation of the pipe shaft in accordance with 9.12.2.2 is not required.

Question No.3: Is this Interpretation correct?

Answer No.3: No

Comments No.3: Compliance to Section 9.12.2.2 is mandatory where a refrigerant pipe shaft is used, whether the use of a pipe shaft was voluntary or mandatory to comply with Section 9.12.1.5. Note that Addendum a to the 2024 edition of Standard 15 makes changes to these sections.