

STATE BUILDING CODE OPINION 24-Sept05

CODE: 2021 International Mechanical Code

SECTION: 1109.3.2 and 1109.4.2 Refrigerant Piping Shaft Ventilation

BACKGROUND: 2021 IMC introduced new requirements for refrigerant piping to be routed in rated and ventilated shafts. For mechanically ventilated refrigerant piping shafts the IMC is silent on acceptable discharge locations for exhaust fans providing the shaft ventilation. ASHRAE 15-2022 Sections 9.12.2.2 and 9.7.8.2 include provisions for mechanical ventilation fan discharge outlet location exterior to buildings. For naturally ventilated refrigerant piping shafts, the IMC and ASHRAE 15-2022 with Addenda are silent on acceptable discharge locations for the outlet.

QUESTION 1: Is it acceptable to use ASHRAE 15-2022 Sections 9.12.2.2 and 9.7.8.2 as criteria for acceptable location for refrigerant piping shaft mechanical ventilation discharge location?

ANSWER 1: **Yes, ASHRAE 15-2022 Sections 9.12.2.2 and 9.7.8.2 clearly indicate the requirements for mechanical ventilation discharge location for refrigerant piping shafts. This is similar to the requirements in IMC Section 1105.7. As IMC Section 1101.1 requires compliance with both sections the more stringent of the two sections shall apply.**

QUESTION 2: Does the separation from a window in IMC Section 1105.7 and ASHRAE 15-2022 Section 9.7.8.2 apply to a fixed window?

ANSWER 2: **Yes. These sections require separation from the refrigerant discharge outlet to a fixed window.**

QUESTION 3: Does the 15 feet above the adjoining grand level apply to refrigerant discharge outlets above an unoccupied roof?

ANSWER 3: **No, 15 feet above an unoccupied roof is not required ASHRAE 15-2022 Section 9.7.8.2 Item d requires the termination point of a vent discharge line shall be made in a manner that prevents discharged refrigerant from spraying directly onto personnel that might be in the vicinity. See [ASHRAE Interpretation IC 15-2001-2](#) for further information.**

QUESTION 4: Is the criteria in IMC Section 1105.7 and ASHRAE 15-2022 Section 9.7.8.2 the acceptable location for refrigerant piping shaft natural ventilation outlet location?

ANSWER 4: Yes. These Sections provide the best guidance for natural ventilation outlet locations to the outdoors.

QUESTION 5: ASHRAE 15-2022 Section 9.7.8.2 Item a requires a makeup air opening at the top of the shaft for natural ventilation systems. This is not required by the IMC. Is this natural ventilation intake opening required?

ANSWER 5: Yes. A makeup air opening is required at the top of naturally ventilated shafts in accordance with ASHRAE 15-2022.

SUPERSEDES: None

REQUESTED BY: City of Bellevue