

INTERPRETATION IC 15-1994-1
ANSI/ASHRAE STANDARD 15-1994, SAFETY CODE FOR MECHANICAL REFRIGERATION
February 18, 1996

Request from: Wally W. Braatz, 2066 Lanier Terrace, Norcross, GA 30071-3423. (Mr. Braatz request was referred to ASHRAE by staff of the Refrigeration Service Engineers Society (RSES)).

Reference. This request refers to ANSI/ASHRAE Standard 15-1994, subclauses 7.4.2(d) and 8.13.2, and to Clause 3 Definitions.

Background. Under Clause 7 Restrictions On Refrigerant Use and Subclause 7.4.2 General System Application Requirements, Rule 3(d) states:

"3. for refrigerating systems of 100 hp (74.6 kW) or less, when the quantity of refrigerant in each system exceeds Table 1 quantities, the rules for commercial occupancy shall apply unless the following occurs: . . .

(d) detectors (refrigerant, oxygen, etc.) are located in areas where refrigerant vapor from a leak will be concentrated so as to provide warning at a concentration not to exceed the refrigerant(s) TLV-TWA (detectors are not required for ammonia due to its self alarming character);"

Under Clause 8 Installation Restrictions and 8.13 Refrigerating Machinery Room, General Requirements, 8.13.2 states in part:

"8.13.2 . . . Each machinery room shall contain a detector, located in an area where refrigerant from a leak will concentrate, which shall actuate an alarm and mechanical ventilation in accordance with 8.1.3.4 at a value not greater than the corresponding TLV-TWA or (toxicity measure consistent therewith). . . ."

Clause 3 defines TLV-TWA as follows:

"*TLV-TWA (threshold limit value-time weighted average):* the refrigerant concentration in air for which a normal 8-hour workday and a 40-hour workweek to which repeated exposure, day after day, will not cause an adverse effect in most persons."

The superseded 1992 edition (subclauses 11.13.2.1 and 11.13.2.2) required use of either an oxygen sensor or refrigerant vapor detector, depending on the circumstance. The 1994 edition of ASHRAE 15 does not specify the type of detector (whether oxygen, refrigerant vapor, or other).

Mr. Braatz's letter opines that the parenthetical clause in Rule 3(d) of 7.4.2 (while only informative in nature) raises a question of intent of the project committee because this clause is absent in 8.13.2 and because of related wording in the superseded edition of the standard.

Mr. Braatz interprets that:

Mr. Braatz's Interpretation No. 1. ASHRAE 15-1994 allows any type of detector to be used that is capable of actuating in compliance with the detection limits specified in Rule 3(d) of 7.4.2 and of 8.13.2.

Mr. Braatz's Interpretation No. 2. The refrigerant vapor type of detector is the only type of detector (other than analytical equipment intended for laboratory use), generally known to be on the market at the time of this interpretation request, that is technically capable of compliance with 15-1994.

Question 1. Is Mr. Braatz's Interpretation No. 1 correct?

Answer 1. Yes

Question 2. Is Mr. Braatz's Interpretation No. 2 correct?

Answer 2. Mr. Braatz's Question No. 2 is effectively a request for engineering consultation and will not be addressed by SSPC 15.

Comment: SSPC 15 agrees that the wording of the referenced clauses of ASHRAE 15-1994 should be clarified and plans to accomplish this in the near future by addendum or revision.