

**INTERPRETATION IC 15-1992-8 OF
ASHRAE STANDARD 15-1992
SAFETY CODE FOR MECHANICAL REFRIGERATION**

October 26, 1993

Request from: Warren Dillenbeck, Dunham-Bush, 101 Burgess Road, Harrisonburg, VA 22801.

References. This request refers to Standard 15-1992, Subsections 5.2.2 Low-Probability System, 7.4.2 General System Application Requirements; 11.13 Machinery Room, General Requirements; Table 1 Refrigerant and Amounts; and Table 2 System Application Requirements.

Background. Mr. Dillenbeck's letter postulates the following: Assume that the quantity of refrigerant in the largest system (chiller) does not exceed Table 1 amounts. For example, consider an office building with 480,000 ft³ of occupied space. Table 1 indicates that allowed quantity of R-22 is 9.4 lbs. per 1000 ft³, so 4,512 lbs. of refrigerant is allowed. The building is cooled by two 100 ton chillers, each containing 200 lbs. of refrigerant. Therefore, the amount of refrigerant in the largest system is clearly less than the Table 1 amount. Referring to Table 2, for a commercial building using R-22 (A1 Safety Classification) chillers in a closed indirect system that qualifies as a low-probability system, Rule 4 of section 7.4.2 applies. The implication of 7.4.2 Rule 4 is that a machinery room per 11.13 is not required. However, to qualify as a low probability system, the chillers would need to be installed in an equipment space "effectively isolated" from the occupied space. The first sentence of Subsection 11.13.1 seems to imply (like 7.4.2 Rule 4) that if not required by Subsection 7.4, a machinery room need not be provided.

Question 1. Is a machinery room per Subsection 11.13 required?

Answer 1. No

Comment. When the chillers are placed in the occupied space under the typical conditions identified in (b) under 5.2.1, all of which is connected with the same ventilation system, they are a high probability system so, according to Table 2, 7.4.2 Rule 2 applies to commercial buildings.

With 200 lbs of R-22 in the largest system; located in 480,000 ft³; high probability system; Group A1 refrigerant, public assembly, residential, or commercial occupancy; a machinery room is not required.

Question 2. If the answer to Question 1 is NO, do any of the other provisions of Subsection 11.13 apply?

Answer 2. No

Comment. In the example postulated, 11.13 does not apply. If the equipment were located in a separately ventilated room, 11.13 would apply.