

**INTERPRETATION IC 15-1992-9 OF
ASHRAE STANDARD 15-1992
SAFETY CODE FOR MECHANICAL REFRIGERATION**

December 6, 1993

Request from: Mr. Anthony J. Cable, Applications Engineer, Monsen Engineering Co, 6 Daniel Road East, Fairfield NJ 07004.

References. This request refers to ANSI/ASHRAE Standard 15-1992 and when compliance is required; specifically 2.2 (parts replaced and components added), 13.6 Storing Refrigerant, and 11.13.2.1 and 11.13.2.2 (sensor compliance).

Background 1. Mr. Cable's letter concerns the case of mechanical rooms that house both boilers and refrigerant-containing equipment and boilers, in which one or more of the following modifications is planned:

- a) chiller replacement,
- b) chiller conversion (refrigerant type changed, e.g., from R-11 to R-123) for types of chillers requiring extensive internal modifications (most chillers in existing installations require modified gaskets, O-rings and motor windings), and
- c) chiller conversion (refrigerant type changed) for types of chillers requiring no internal modifications.
- d) chiller containment (adding a high-efficiency purge equipment to an existing chiller),

Subsection 2.2 defines the conditions under which the standard applies. Mr. Cables letter interprets that, for the case cited, compliance to Standard 15-1992 is required for modifications a), b) and c) but not d).

Question 1. Is Mr. Cable's interpretation No. 1 correct?

Answer 1. No

Comments. The requirements of Standard 15-1992 apply to all of the described modifications, a), b), c) and d).

For the pending second public review draft of revised standard ASHRAE 15-1992R, SSPC 15 will consider revising the Scope Section to clarify this matter.

Background 2. Subsection 13.6 reads:

"13.6 Storing Refrigerant. Refrigerant stored in a machinery room shall not be more than 330 lb (150 kg) in addition to the charge in the system and the refrigerant stored in a permanently attached receiver and then only in approved storage containers.¹"

Mr. Cable's letter asserts that the wording of 13.6 can be interpreted in two ways. For example, assume a mechanical room with two chillers including receivers, each system charged with 600 lbs of refrigerant. The words, "in addition to the charge in the system and the refrigerant stored in a permanently attached receiver" can be interpreted to mean:

- a) "plus an amount equivalent to the charge in the system and the refrigerant stored in a permanently attached receiver," in which case the maximum amount of stored refrigerant would be $1200 \text{ lb} + 330 = 1500 \text{ lb}$, or
- b) "independent of the charge in the system and the refrigerant stored in a permanently attached receiver," in which case the maximum amount of stored refrigerant is 330 lb regardless of the number of chillers and the amount of their refrigerant charge.

Mr. Cable's letter interprets that b) is correct.

Question 2. Is Mr. Cable's interpretation No. 2 correct?

Answer 2. Yes

Background 3. Subsections 11.13.2.1 and 11.13.2.2 cover requirements for refrigerant sensors. Assume a mechanical room containing more than one chiller in which refrigerant conversions of a type identified in Answer 1 as requiring compliance to ASHRAE 15-1992 are done to some but not all of the chillers. Mr. Cable's letter interprets that the sensor requirements of 11.13.2.1 and 11.13.2.2 apply to the chillers converted and not to the chillers not converted.

Question 3. Is Mr. Cable's interpretation No. 3 correct?

Answer 3. No

Comment. The detector requirements apply to the machinery room, not to the chillers.