

**INTERPRETATION IC 15-1994-11 OF
ASHRAE STANDARD 15-1994
SAFETY CODE FOR MECHANICAL REFRIGERATION**

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Request from: Ms. Berni Mattsson, P.E. (e-mail: bmattsson@commerce.state.wi.us), Energy and HVAC Program Manager, Wisconsin Department of Commerce, Safety and Buildings Division, Program Development, P.O. Box 2689, Madison, Wisconsin 53701-2689.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 15-1994, Section 2.2 (c).

Background: In an existing ammonia refrigeration system, a 60 hp compressor is replaced by a 150 hp compressor and the existing condenser is replaced with a larger capacity condenser. Under section 2.2 (c), replacement parts or components must comply with the code only if they are not identical in function.

Interpretation: Looking in several dictionaries, I see that the word “function” refers to the activity of a thing, and not its magnitude or performance. It would seem that the function of both the 60 horsepower and the 150 horsepower compressor is cooling. Therefore, ANSI/ASHRAE Standard 15-1994 would not apply to the replacement compressor and condenser.

Question: Is this Interpretation correct?

Answer: No

Comment: Installation of a larger compressor and condenser requires other system changes, including the electrical supply and protection (e.g., circuit breakers), compressor mounting, piping, relief devices, and refrigerant charge amount. The precise definition of “identical in function” for the larger compressor is irrelevant since the change necessitates that other components be modified. This is not a “replacement”; it is a system expansion and ASHRAE 15-1994 applies under 2.2(a) and (b). Moreover, the increase in refrigerant amount cannot be considered a “replacement” since it is an addition, hence ASHRAE 15-1994 applies as a “component added after adoption of this code” based on 2.2(b).

The requestor’s interpretation asserts that “the function of both the 60 horsepower and the 150 horsepower compressor is cooling.” Cooling is provided by boiling or evaporating the refrigerant in the evaporator. Compressors reduce the volume of space occupied by the entering refrigerant, thereby raising the pressure. The discharge gas actually is warmer than the suction gas. Since the 60 hp compressor is reducing an initially smaller volume than the 150 hp compressor, its function is not identical and ASHRAE 15-1994 also applies under 2.2(c).