

INTERPRETATION: IIAR SRC 2011-2

SUBJECT: ANSI / IIAR-2, 2008 ADDENDUM A, Section 3

DATE ISSUED: July 19, 2011

Date Revised: March 10, 2017

QUESTION:

It is common that some process refrigeration equipment that is located in production rooms are often equipped with pumps. Does the current definition of machinery rooms imply that if process equipment has an ammonia pump associated with it, then the room which contains it must be considered a machinery room?

Revised Reply:

IIAR 2-2014 provides specific language on when a machinery room is required for refrigeration systems. The definition of a machinery room was also revised in IIAR 2-2014: “An enclosed space that, where required by this standard to contain equipment, must comply with the requirements set forth in Chapter 6.”

Further, IIAR 2-2014 permits the use of “low probability pumps” (also defined in the standard) per section 4.2.3, paragraph 3, in industrial occupancies. Installation must be compliant with the requirements of chapter 7. Therefore, the revised standard does not imply that rooms having process equipment with “low probability pumps” be considered machinery rooms.

Original REPLY:

The request for interpretation regarding the use of pumps within production room areas was reviewed at length. It was re-confirmed that the definition of a machinery room was intended to be inclusive of any room that contained pumps or liquid transfer equipment. It was the vision of the SRC that in years to come, occupied production rooms would not have pumps or transfer equipment in them that would increase the possibility of ammonia releases.

But, it was recognized that there are many forms of refrigeration equipment that require or benefit from the use of a pump. The committee believes that such new installations can be addressed by the thoughtful location of the equipment such that

pumps and transfer equipment can be located in separate rooms that would be treated like a mechanical room, or the production room itself treated like a mechanical room. There are several anecdotes describing projects that routed liquid to adjacent rooms where it was then pumped to a header or back to a vessel in order to eliminate pumps within a production room. Alternatively, it is believed that new liquid distribution technologies are available to reduce the need for static head reduction pumps.

Most current codes reference the IMC and/or ASHRAE 15 which have language prohibiting equipment other than evaporators from being located anywhere but in machinery rooms. This language has been in place for many years, and yet production room equipment using pumps has continued to be installed without concern for the restrictions or even additional safety measures.

Original COMMITTEE ACTION:

It is one challenge of the IIAR to come up with a solution to this dilemma, because the SRC does believe that there is a need to address situations where it is unavoidable to use this type of equipment. The effort will be considered by the IIAR Board of Directors as part of the IIAR strategic plan.

In anticipation of this board directive, and as part of its scheduled work, the SRC has formed a task force to re-affirm and update IIAR 2. Along with a fair number of other proposals, the task force will undertake an examination of the means to help make production rooms necessitating pumps or other equipment as safe as possible. The development of this standard language, and the development of consensus will be a lengthy process. The SRC suggests that in the meantime owners and designers with this concern to do their best in complying with the codes as they are currently written.