



1001 N. Fairfax St., Suite 503 • Alexandria, VA 22314
703-312-4200 • F: 703-312-0065

www.iiar.org

April 25, 2017
Ms. Kim Snowden
Snowden Engineering
19495 Redding Drive
Salinas, CA 93908
RE: California Mechanical Code and Safety Relief Discharge

Dear Ms. Snowden,

Thank you for your recent inquiry concerning the requirements of the California Mechanical Code (CMC) for flaring systems at the termination of ammonia safety relief valve headers. It is our understanding that the 2016 version of the CMC now requires flaring systems to be fitted to relief valve headers that discharge to atmosphere, because the former exception for ammonia systems that required dilution tanks was eliminated. This contrasts with the California Fire Code, several other nationally recognized mechanical and fire codes, and the 2013 version of the CMC. We believe this change was initiated due to coordination problems at meetings in which change proposals to the 2015 Uniform Mechanical Code (UMC) were discussed. It was intended that the 2015 UMC, upon which the CMC is based, would reference IIAR 2 for ammonia systems and remove all other references to ammonia within the body of the code. However, the coordination problem left some references in place and this has caused confusion. We expect that these oversights will be corrected in the 2018 version of the UMC.

IIAR does not endorse the use of flaring systems or diffusion tank systems. The preferred method of discharge is directly to the atmosphere. Ammonia vapor discharge to the atmosphere is benign to the environment, and the risks of exposure to high concentrations of released ammonia is very low when relief systems are installed per industry standards, and all other code required measures for controlling system pressures are in place. We do acknowledge that flaring systems can be effective, but believe that they introduce numerous points of potential failure and excessive requirements for maintenance and testing for an action that in most circumstances is un-necessary. Our position on dilution tanks is similar. Dilution tanks are known to be effective at scrubbing ammonia releases, and are somewhat more passive than flaring systems. However, they are also known to be problematic for several reasons including the premature failure of relief valves, standing water in the tanks, potential ice plugging of relief lines, and the need to remove, transfer and dispose of ammonium hydroxide if they are ever used.

IIAR does acknowledge that in cases where sensitive receptors such as nursing homes, day-care facilities, elementary schools and similar facilities are located near ammonia refrigeration systems, using dilution tanks or flaring systems is appropriate as judged by the authority having jurisdiction. But to reiterate, we do not advocate the use of either under most circumstances. This position is reflected in many national codes and standards, including ANSI/IIAR 2.

We hope that this helps clarify our position and our intentions to address both the UMC and CMC language that we understand to have been developed in error.

Regards,

A handwritten signature in blue ink that reads "Eric M. Smith". The signature is written in a cursive style with a large, stylized "S" at the end.

Eric M. Smith, P.E. - Vice President and Technical Director, IIAR