In February 2015, the EPA released an Enforcement Alert (document: EPA 325-R-014-001) that highlights its increased level of attention and scrutiny for ammonia refrigeration facilities. Several examples of facilities that experienced ammonia releases and other dangerous conditions are detailed, along with a summary of conclusions based on some of EPA's recent inspections of ammonia refrigeration systems.

Since 2012, there have been 14 reported ammonia releases in the United States that resulted in property damage, injuries, and/or deaths. Increased focus on the ammonia refrigeration industry due to these recent high profile incidents could mean more stringent enforcement of the Risk Management Program (RMP) is on the horizon. EPA's enforcement penalties for these 14 releases totaled more than $8.5 million, in addition to the $10 million on supplemental projects such as process upgrades/improvements, additional training, and purchasing equipment for emergency responders.

Recent observations by EPA indicate that many refrigeration facilities are not fully complying with the elements of the RMP. Under the General Duty Clause (GDC) provision of the RMP regulations, even facilities with less than the threshold quantity of ammonia (10,000 pounds) are required to identify and evaluate the hazards, and to take steps to ensure the ammonia and associated process equipment is managed safely.

EPA is aware of ammonia refrigeration industry standards such as ANSI/IIAR-2 “Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigeration Systems”, and ASHRAE-15 “Safety Standard for Refrigeration Systems.” These standards should be considered not only by engineers designing new facilities, but also by existing facilities as they strive to identify chemical hazards and to prevent accidental releases.

The Alert goes on to cite several specific cases of preventative enforcement actions that were taken by EPA to protect against the possibility of a release. These include settlements between the facilities and the EPA, in addition to an Administrative Order that required a facility to hire a “refrigeration expert” to review process hazards, to recommend steps to resolve those hazards, and ultimately led to mandating that the facility remove the ammonia from their refrigeration system. Civil penalties ranged from $34,000 to $108,000 in the examples detailed in the Alert, not to mention the costs of supplemental improvements spent by facilities that were up to $346,000.

There are many lessons learned by EPA as described in the alert. These include: identifying hazards associated with the regulated process, documenting preventative maintenance of process equipment, upgrading equipment to comply with codes and standards (such as emergency shut off valves) that were in place at the time of construction, correcting/preventing corrosion of vessels and piping, applying appropriate defrost procedures and frequencies to reduce ice buildup on equipment and/or piping, ensuring that engine rooms have adequate ventilation, and employing trained operators.

There are many significant issues detailed in EPA's recent Enforcement Alert, most importantly the fact that EPA is now more acutely aware of the ammonia refrigeration industry and the potential hazards that can arise at those facilities, and is willing to take enforcement action aimed at protecting communities.