

# IT'S ALL IN YOUR PAST



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I am often asked by people who manage facilities with ammonia refrigeration systems, but do not have direct responsibility for these systems, how this or that was missed by their personnel when I point them out to them. My response is often the two-fold, but both items involve the past.

First comes training. If your supervisory and line level personnel who are responsible for the refrigeration systems have not been trained on what to look for, then they will not see it, regardless of how many times they walk past the issue. This applies to compliance requirements,

physical things that do not meet current codes and standards, and to mechanical integrity (MI) issues. Have your supervisory and line level personnel attended a true class on Process Safety Management (PSM)? Was it one that was specific to ammonia refrigeration, or more general? Often, when a person attends a general PSM class, they find that it is geared towards the petrochemical industry and only applies to ammonia refrigeration at a high level. These classes have dubious value to a person who is not in that particular industry, or who does not deal with multiple industries. Look for one that offers the most "bang for your buck."

When it comes to current codes and standards, have you ever sent your refrigeration personnel to a conference

to learn more about the changes that have taken place in the industry? Both the International Institute of Ammonia Refrigeration (IIAR) and the Refrigerating Engineers and Technicians Association (RETA) hold annual conferences that help to serve as continuing education for those in the ammonia refrigeration industry. Alternatively, you can hire a consultant to help educate your personnel on the myriad of applicable codes and standards. The only caveat to this is to make sure that the consultant focuses on ammonia refrigeration and is thoroughly knowledgeable on the ammonia refrigeration industry's codes and standards.

How about inspections of your system for mechanical integrity? Was it your contract refrigeration technician that trained your operators on what to look for? What are that technician's qualifications? Did they have formal schooling on MI inspections, or are they relying on that nebulous "common sense?" Even more so, are you relying on the "common sense" of your employees without any training whatsoever? An article that I read a few years back stated that the root of all common sense relies upon one of two things: either training or experience. The analogy offered stated that your parents either taught you not to stick the metal fork into the electrical outlet, or you went and did it and found out the hard way that you shouldn't do that. Think about that when you are lamenting the "death" of "common sense."

That analogy leads me to the second part of response to the question. Often, even with proper training, it's all about the experiences. If you have not experienced something, you often overlook the precursors that lead up to it, or even an indication of the thing in question. My first analogy of this phenomenon is that a few years back, I was given a prescription for a CPAP machine. I started carrying it with me on all of my travels. Prior to obtaining one, I never noticed other passengers carrying them. Now, I am hard pressed to board a flight and not see someone else with a CPAP. It's all in the experience and what you know. I now know what they look like, plus I am having to carry one myself.

To circle back to ammonia refrigeration, do you see anything

wrong with the nameplate in the photo bellow? At a first and even a second glance, nothing appears amiss. In fact, the issue with this one was not discovered until the U sheet was obtained from the National Board. As it turns out, the nameplate was, in fact, not the original one for the vessel upon which it was attached. This was evident when the U sheet indicated that the vessel should have been about 1/8 the size that it was. The impression was that the RTD that is visible around the nameplate had been applied to prevent moisture from migrating under the nameplate and causing corrosion. However, it was actually the attachment of the nameplate to the vessel. Thankfully, this vessel was removed from service and replaced. However, this does serve to highlight the fact that, until you

experience something like this first hand, you may not pick up on it.

So how do we avoid missing things during our audits and inspections? The first thing to do is train, train, train. Investing in the knowledge and development of your personnel is the first step towards making your management system world class in the safe operation and maintenance of your ammonia refrigeration system. The second thing to do is to give your employees the opportunity to gain more experience. If you happen to have multiple facilities with ammonia refrigeration systems, have personnel from one facility take part in audits at the other facility. If you are paying a consultant to perform audits, have them take part in the audit as a team member. You're paying for the audit to be conducted anyway. Taking part in the audit is like free training for your employees. Seek out local RETA chapters and send your employees to the meetings. Between the presentations that take place at the meetings and the networking opportunities, it is a virtual certainty that they will learn something new every time that they go. Just think, that knowledge gained may make the difference between life and death.

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