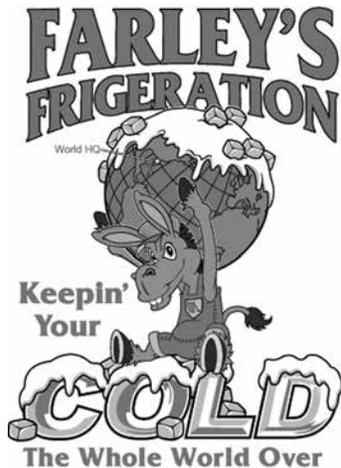


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# PSM/RMP COMPLIANCE

## Incorporating RAGAGEP Into Your PSM / RMP

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The language, “Recognized and generally accepted good engineering practices” is mentioned in a few locations within the PSM and RMP regulations:

- Process Safety Information [OSHA 29 CFR §1910.119(d)(3)(iii) & EPA 40 CFR §68.65(d)(3)]: Proving that your equipment is operated in a safe manner.
- Process Safety Information [OSHA 29 CFR §1910.119(d)(3)(ii) & EPA 40 CFR §68.65(d)(2)]: Staying current with industry changes in design and operations.
- Mechanical Integrity [OSHA 29 CFR §1910.119(j)(4)(ii) & EPA 40 CFR §68.73(d)(2)]: Proving that your inspection and maintenance practices follow industry practices.
- Mechanical Integrity [OSHA 29 CFR §1910.119(j)(4)(iii) & EPA 40 CFR §68.73(d)(3)]: Proving that your inspection or testing frequency is following industry practices.

On June 15, 2015, OSHA clarified that published documents that follow the American National Standard Institute’s consensus standards qualify as RAGAGEP. The International Institute of Ammonia Refrigeration’s ANSI/IIAR 2–2008, “American National Standard for Equipment, Design and Installation of Ammonia Mechanical Refrigeration Systems” and ANSI/ASHRAE 15–2013, “Safety Standard for Refrigeration Systems” are both considered RAGAGEP for the ammonia refrigeration industry. For new systems, this is easy because all items within these documents should have been engineered into the initial design.

For older systems, it becomes more complicated—but it doesn’t have to be. As an owner/operator, the PSM and RMP regulations require us to state what we are going to do then prove that we are doing it.

One simple way to get started documenting RAGAGEP for older facilities is to take the MOST CURRENT version of ANSI/IIAR 2 (which is dated 2014 and was available in December 2015) and review, at a minimum, the safety system requirements for new installations: Ammonia Detection/Alarm Systems, Ventilation requirements, Relief Discharge, Means of Egress, Labeling, and Eyewash/Safety Showers. These issues are critical to life-safety and are items that can be updated or addressed with minimal capital investment.

For example, previous requirements for ammonia detection systems were to alarm at the PEL. In most states the PEL was 50 ppm. The ANSI/IIAR 2-2014 requires the ammonia sensors to alarm at 25 ppm. For most ammonia detection systems, this is a simple adjustment and will go a long way with an inspector. For items not feasible, a “Memo to PSM File” is a method to show you examined the current “standard”.

Other ways to evaluate your facility against RAGAGEP, would be to institute the following activities:

- Revalidate the Process Hazard Analysis every five years (where accident history and lessons learned are incorporated into the assessment).
- Utilize the Management of Change/Pre-Startup Safety Review programs as a vehicle to review industry codes, standards, and bulletins related to the equipment being modified.
- Utilize the Incident Investigation process as a means to review industry standards and guidelines relating to the failure.
- Conduct an independent Mechanical Integrity inspection per IIAR Bulletin No. 110 every five years.

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- Utilize IIAR Bulletin No. 109 Equipment Safety Forms to conduct an overall safety inspection of the ammonia refrigeration equipment annually.
- Participate in industry-related events to stay current with industry trends (e.g., Refrigerating Engineers and Technicians Association meetings, International Institute of Ammonia Refrigeration events, etc.).
- Review changes to IIAR standards and bulletins as revisions are made.
- Incorporate “RAGAGEP” as an agenda item for your PSM Team Meetings.

Remember—state what you’re going to do, then prove that you did it.

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