WHITE PAPERS

UNDER PRESSURE

the importance of safety for ammonia refrigeration valves & relief valve header piping

From cold storage warehouses to meat processing plants, all ammonia refrigeration systems run the risk of dangerous ammonia leaks, particularly older systems with piping that is aged and outdated. While these refrigeration systems are widespread, companies that own older systems or are updating existing systems need to be aware of the safety issues

The AHSRAE regulations—designed through a scientifc approach—increased the size requirements of pipes in the relief valve venting system to accommodate pressure from multiple valve releases. In the event of an ammonia release from several valves at once, the new, larger pipes help prevent dangerous leaks by minimizing pressure in the relief headers. The older systems did not accommodate for the possibility of a simultaneous valve release, which could cause an increase in pressure within the relief header piping. The new systems—from a scientifc and technical standpoint—provide additional safeguards to prevent a catastrophic event.

In addition, the International Institute of Ammonia Refrigeration (IIAR) requires the replacement of pressure relief valves every fve years. Documentation should be made each time the valves are replaced, including stamping the replacement dates onto each unit to help ensure ongoing compliance.

Facility management also should be aware of regulations falling under the U.S. Department of Labor's Occupational

Through awareness of relevant regulations and vigilant oversight of facility equipment and procedures, facility management can help ensure a safe and stable refrigeration facility. For additional information on relief valve safety and applicable regulations, visit the websites for OSHA, IIAR and ASHRAE.

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