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Refrigeration & HVAC
 Mechanical & Plumbing
 Food Process
PSM-RMP & Safety Services
 Controls & Automation
 Planned Maintenance

Annual Ammonia Inspection / Mechanical Integrity Inspections

Every facility with extremely hazardous chemicals, specifically ammonia, needs to perform a yearly Mechanical Integrity Inspection. This requirement is spelled out in IIAR Bulletin 109 Section 5.2, "Each owner should ensure an ammonia system safety check is conducted annually.", and in Guidance for Implementation of the General Duty Clause Clean Air Act Section 112 (r) (1), "EPA believes that owners and operators who have these (extremely hazardous) substances must adhere, at a minimum, to recognized industry standards and practices (as well as any government regulations) in order to be in compliance with the general duty clause."

Wagner-Meinert, LLC, offers an Annual Ammonia Inspection per IIAR Bulletin #109 as well as a more detailed Mechanical Integrity Inspection.

The Mechanical Integrity Inspection performed by WMI goes beyond the basic inspections conducted in accordance with IIAR Bulletin 109. During a Mechanical Integrity Inspection we conduct field tests on equipment and equipment safeties per our prepared checklist. Wagner-Meinert, LLC uses a checklist designed to incorporate the questions provided by IIAR and supplemented in those areas that were, in our opinion, lacking. Below is a comparison of the Annual Ammonia Inspection and Mechanical Integrity Inspection.

Category	Number of Questions included for each Component	
	Annual Ammonia Inspection	Mechanical Integrity Inspection
Compressors	15	71
Purgers	Included as an Evaporator with no specific Purger questions	45
Vessels	26	53
Heat Exchangers	26	57
Evaporators	10	26

Category	Number of Questions included for each Component	
	Annual Ammonia Inspection	Mechanical Integrity Inspection
Air Cooled Condensers	Included as a Heat Exchanger with no specific questions for the Air Cooled Condenser	36
Evaporative Condensers	26	44
Refrigerant Pumps	12	40
Condenser Pumps	Not Included	40
Non-pressurized Tanks (Sump Tanks)	Not Included	15
Piping	12	18
Ventilation	12	35
Relief Systems	13	19
General	32	41

During a Mechanical Integrity Inspection, we include visual and mechanical inspection of all system components. This includes, high level alarms and shutdowns on each vessel, testing alarms and all shutdowns on each compressor. An Annual Ammonia Inspection only includes three compressor shutdowns. Note that WMI not only tests safeties electrically but also mechanically. For example, where possible the High Level Shutdown Switch is tested by filling the Level Column with liquid ammonia until the float switch trips.

At the conclusion of either study, we issue a written report outlining the findings of the study. Included in the report is a summary listing the items requiring attention, and copies of photos of deficiencies taken during the inspection. An electronic copy of the report for archive purposes, (in .PDF) format is included with the report. A spreadsheet listing the follow-up items will be provided, to allow you to record follow-up actions.

Please call to receive a quote or to make your inspection appointment. Annual Ammonia Inspections and Mechanical Integrity Inspections are prime factors to assure a safe operating plant and also point out areas of improvement for energy efficiency.