Beyond Regulatory Compliance ... the Business Case for PSM

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Often overlooked

- Refrigeration is **essential** in the production and storage of meat, poultry and many other foodstuffs

- **What do you call meat without refrigeration?**
Often overlooked

- Refrigeration is essential in the production and storage of meat, poultry and many other foodstuffs

- Anhydrous ammonia is
  - A high performance refrigerant widely used in industrial systems
  - Toxic, thus included as a “hazardous chemical” under PSM

- The loss of refrigeration in a plant can have significant financial impacts
  - Could you run production without refrigeration?
  - Could you store raw and/or finished goods?
What is the purpose of Process Safety Management (PSM)?

**Prevent** accidental releases of hazardous chemicals into locations that put employees at risk

(Source: “PSM Guidelines for Compliance”, OSHA 3133)

Effectively functioning PSM programs have collateral benefits that include increased infrastructure reliability & uptime!
PSM aims to prevent “the big one”

Engine Room - 6:04:09 a.m.
Contractor smells ammonia and notifies maintenance
PSM, it has been around for a while!

- A **performance-based** comprehensive management program promulgated May 1992
- Integrating
  - Technology, procedures, management practices
- A **holistic process** for managing covered processes from “cradle to grave”
PSM – why should I care?

• Applies to processes with toxic/reactive or flammables above threshold quantity (TQ)
  – Anhydrous ammonia TQ=10,000 lb

• What is considered a “process”?
  – Any group of vessels interconnected or separate but located in close proximity
PSM – a mere 14 elements

- Pre-startup safety review
- Employee participation
- Process safety information
- Emergency Planning & Response
- Trade secrets
- Hot Work
- Process hazard analysis
- Incident Investigation
- Operating procedures
- Operator training
- Contractors
- Mechanical integrity
- Compliance audits
- Management of change
Seems “easy” but regulatory compliance has lagged

- OSHA and EPA are finding significant gaps in compliance for ammonia refrigeration systems used in food production & storage facilities
  - OSHA’s National Emphasis Program (NEP)
  - EPA’s National Compliance Initiative (NCI)
All OSHA ChemNEP inspections opened FY16 thru FY18
FED and State Plan States combined

- **1,048 Inspections** in 197 NAICS codes
  (~70% have one or more violations)
- **3,030 proposed violations**
- **Average 4.81 violations per inspection** with citations
- Penalties proposed – total $14,493,657
  - Mean $22,964 per inspection
  - Median $12,600 per inspection
  - Max $183,300
### All ChemNEP violations by PSM Element FY16 thru FY18

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<th>% of PSM Citations</th>
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Food/Cold Storage ChemNEP inspections opened FY16 thru FY18

- 341 Inspections in 40 different NAICS codes
- 1,236 proposed violations
- Average 5.4 violations per inspection with citations
- Penalties proposed – total $6,595,263
  - Mean $26,093 /inspection
  - Median $12,932 /inspection
  - Max $183,300
All Food/Cold Storage ChemNEP inspections FY16 to FY18

- 72 standards cited (Includes General Duty)
  - 1910, 1904, and General Duty Clause
- 97% General Industry (Part 1910)
- 59% of GI violations under PSM (1910.119)
- Programmed – 56% and Unprogrammed – 44%
  - FAT/CAT - 0
  - Employer-Reported Referral - 12
## All Food/Cold Storage ChemNEP citations by PSM element – FY16 to FY18

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EPA enforcement

• EPA’s 2018-2022 strategic plan, in part, aims to increase compliance & reduce average time from violation to correction

• In August 2018, EPA transitioned its National Enforcement Initiative program to the National Compliance Initiative
  – Better alignment with the Agency Strategic Plan
  – Engage States and Tribes with NCI initiatives
  – Enhance compliance
You should be aware

• EPA intends to pursue and publicize NCI enforcement actions
  – Serves as a deterrent & ensures a level playing field

• This type of visibility can/will have brand impact

• One thrust area is “Reducing Risks of Accidental Releases at Industrial and Chemical Facilities”

**Case Study: Columbus Manufacturing Inc., San Francisco, CA**

- In 2009, facility had two releases, each over 200 pounds of anhydrous ammonia, putting the surrounding community at risk. As a result of the second release:
  - All facility employees and several neighboring businesses were evacuated.
  - Nearly 30 people from the downwind facility sought medical attention.
  - 17 individuals were transported to the hospital. One person was hospitalized for four days.
  - Off-ramps from Highway 101 and several local streets were shut down.

- Settlement required Columbus to spend $6 million to improve facility safety by upgrading its refrigeration technology and emergency notification system and to pay a $685,446 penalty.
Examples of media coverage when compliance has lagged

OSHA News Release - Region 6

U.S. Department of Labor

May 6, 2019

SAN ANGELO, Tex. — The U.S. Department of Labor’s Occupational Safety and Health Administration (OSHA) has cited Brownwood Manufacturing Co., Inc., a manufacturer of precision metal products, operating as the Brownwood Manufacturing Group, to comply with safety and health standards in connection with an alleged incident that occurred on Jan. 17. The agency determined that an employee suffered a serious injury from being struck by a moving machine. The penalty is $7,256.

OSHA determined that the employer’s employees were exposed to mechanical power presses that did not have guards to prevent the worker’s lower extremities from coming into contact with the moving machines during operation. Additionally, the employer was cited for failing to ensure that machine guarding was in place to prevent injuries.

The PSM Program - PSM Program requirements are designed to protect workers from being exposed to highly hazardous chemicals, which are used in the manufacturing processes. PSM Program requirements include the development and implementation of chemical process safety management programs, emergency preparedness, and employee training programs.

OSHA cited the company for process safety management (PSM) maintenance lockout/tagout violations. The PSM standard requires that employers develop and implement procedures to protect workers from being exposed to highly hazardous chemicals.

"When employers fail to properly document process safety management programs, employers can monitor their process safety management programs to ensure that they are effective in preventing accidents and fatalities," said OSHA Regional Administrator James Voorhees, Region 6. "OSHA’s PSM standard requires employers to conduct regular inspections of process safety management programs and to ensure that employees are trained on PSM procedures and practices.

News Releases from Region 09

U.S. EPA settles with E. & J. Gallo Winery of Fresno, Calif., over chemical safety violations

Company will spend $350,000 to enhance safety at its facility

January 18, 2019

HASTINGS, NE — The U.S. Department of Labor’s Occupational Safety and Health Administration (OSHA) has cited Gallo Wine & Spirits Co., operating as the E. & J. Gallo Winery, to comply with the PSM requirements in connection with its winemaking facility in Hastings, NE.

OSHA determined that the company’s employees were exposed to the dangers of anhydrous ammonia, a gas used as an industrial refrigerant.

"Anhydrous ammonia is a highly hazardous substance that can cause serious or fatal injuries if not properly handled," said OSHA Regional Administrator Mark Scott, Region 09. "OSHA requires employers to have a process safety management program to prevent occupational injuries and illnesses from hazardous chemical procedures.

News Releases from Region 09

SAN FRANCISCO – The U.S. Environmental Protection Agency (EPA) has reached a settlement with E. & J. Gallo Winery to resolve risk management violations at its wine production facility in Fresno, Calif. E. & J. Gallo Winery, the world’s largest privately held wine company, will pay a $57,839 civil penalty and spend an estimated $350,000 to reduce the risk of chemical accidents at its facility.

In 2015, EPA inspectors found violations of the Clean Air Act’s Risk Management Plan regulations. The violations included deficiencies in the plant’s hazard assessment, process safety information, operating procedures, mechanical integrity program, compliance audits, incident investigations, and emergency response program.
Why is compliance elusive?

• PSM does not have a logical “home” in most organizations
  – Safety, environmental, engineering, HR, legal, manufacturing, etc. (everywhere except marketing)

• PSM programs are often relegated to a “PSM Coordinator”
  – Personnel in this role rarely have the necessary development that prepares them to be successful
  – Other personnel who work with the covered process are “disconnected”
Why is compliance elusive?

• PSM is often viewed as a “program” not as a true management system to practice (it’s “bolted on”)

• Many plants equate “compliance” with “best practice” not as a minimum threshold
Why is compliance elusive?

- PSM is not “knit” into the fabric of how we currently do business
  – Other personnel within an organization that have a role in PSM are oblivious to the program (purchasing, safety, project managers, engineering personnel, etc.)
- Senior leadership are uninvolved until a major incident or significant enforcement action occurs
- The “business case” has not been made
The business case for PSM

• Protection of plant employees
  – An effective PSM program aids in protecting your investment in human capital!

• Protection of investment in infrastructure
  – As a tool, PSM helps protect your investment in plant property, equipment, buildings, and other infrastructure

• Improvement of workplace
  – Employees value a workplace where risks to their health and safety are minimized
The business case for PSM

• Insurance and insurability
  – Insurers are recognizing the importance of a well-functioning PSM program to protect their insureds

• Goodwill
  – When the press covers significant incidents and accidents within your organization, goodwill is eroded

• Community stewardship
  – Hazardous chemical releases can damage the off-site environment and put public at risk
The business case for PSM

FOR IMMEDIATE RELEASE

Georgia-Based Millard Refrigerated Services to Pay $3 Million Civil Penalty for Ammonia Release That Sickened Workers Responding to Deepwater Horizon Oil Spill

The Department of Justice and the U.S. Environmental Protection Agency (EPA) today announced a final settlement with Millard Refrigerated Services that resolves alleged violations of the Clean Air Act, Emergency Planning and Community Right-to-Know Act and Comprehensive Environmental Response, Compensation, and Liability Act violations for an airborne release of ammonia from Millard’s Theodore, Alabama, facility in 2010. Millard will pay a $3 million penalty for the violations that sickened 152 people responding to the BP oil spill.

“The release of ammonia from Millard’s facility created significant health problems,” said Assistant Attorney General John C. Cruden for the Environment and Natural Resources Division. “This settlement underscores how lapses in environmental management can have serious consequences, and today we are holding Millard accountable for this failure to ensure the safety of its workers and the surrounding community.”

“The Clean Air Act exists to protect all of us from preventable threats to our health and safety, such as what happened in this case,” said Keyon R. Brown, U.S. Attorney for the Southern District of Alabama. “On behalf of the citizens of our district, I commend the hard work of the EPA and the Department of Justice’s Environmental and Natural Resources Division in achieving such a significant settlement that vindicates these interests.”
OSHA’s PSM Program

• Importance is beyond “regulatory compliance”

• When integrated into your organization’s business processes & practices PSM offers significant benefits
  
  – Increased ability to manufacture, store, & distribute products without interruption
  
  – Enhanced plant safety by mitigating one of the largest risks on-site
Questions?

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