

Beyond Regulatory Compliance ... the Business Case for PSM



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What is the purpose of Process Safety Management (PSM)?

Prevent accidental releases of hazardous chemicals into locations that put employees at risk
(“PSM Guidelines for Compliance”, OSHA 3133)

Effectively functioning PSM programs have a collateral benefit of increased infrastructure reliability & uptime!

PSM, it has been around for more than 3 decades!

- PSM is a **performance-based** comprehensive management program promulgated May 1992
- PSM integrates
 - **Technology, procedures, management practices**
- PSM is intended to be a **holistic process** to manage covered processes from “**cradle to grave**”



PSM – it's only 14 elements



Seems “easy” but regulatory compliance has lagged

- OSHA and EPA are finding significant regulatory gaps in both chemical and food production & storage facilities
 - OSHA’s National Emphasis Program (NEP)
 - EPA’s National Compliance Initiative (NCI)



All CHEM NEP inspections opened FY17 thru FY21

FED and State Plan Combined

- **1,492 Inspections** in **210** NAICS (6-digit) codes
 - 928 inspections with violations
- **4,603 proposed violations**
- **Average 4.9 violations per inspection** with citations
- Penalties proposed – total \$USD 26.6 million
 - **Mean \$USD 28,635 per inspection**
 - Median \$USD 13,653 per inspection
 - Max \$USD 709,960

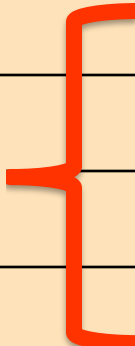
All CHEM NEP inspections opened FY17 thru FY21

- 90 OSHA standards cited
 - 78% standards cited in General Industry, GI (Part 1910)
- **55% of GI violations in PSM (1910.119)**
- **Programmed – 53%**
- **Unprogrammed – 47%**
 - Unprogrammed inspections includes Complaint, Referral, Fatality/Multiple Hospitalization, etc.
 - **FAT/CAT – 29**
 - **Employer-Reported Referral - 82**

All CHEM NEP Violations by PSM Element FY17 thru FY21

Element	Description	% of PSM Violations
j	Mechanical Integrity	21.5
d	Process Safety Information	20.0
f	Operating Procedures	16.1
e	Process Hazard Analysis	13.9
l	Management of Change	6.4
h	Contractors	5.6
o	Compliance Audits	4.4
g	Training	4.1
n	Emergency Planning & Response	3.5
c	Employee participation	1.6
i	Pre-startup Review	1.5
m	Incident Investigation	1.3

72%

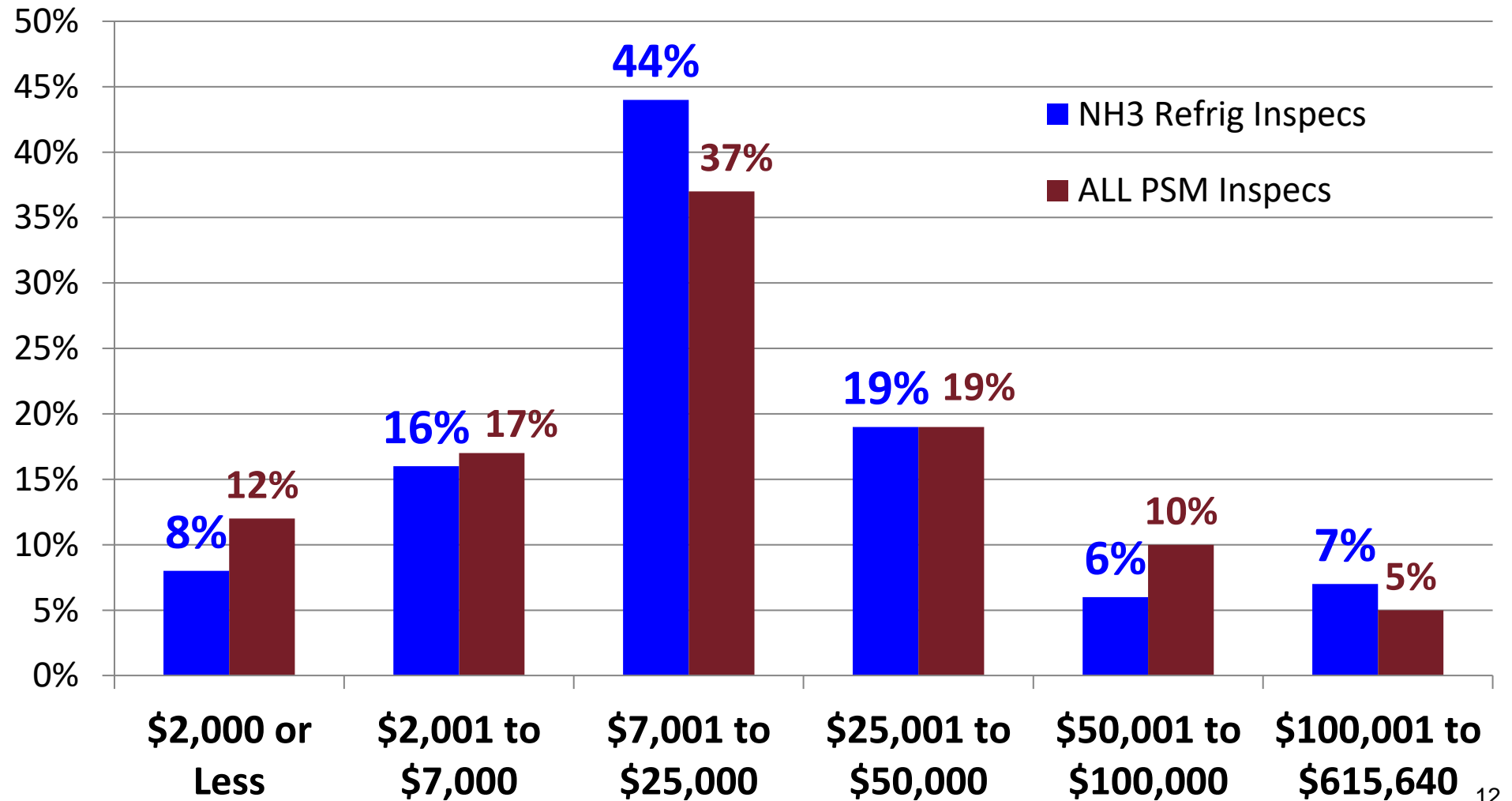


All Food/Cold Storage CHEM NEP Inspections Opened FY17 thru FY21

- **429 Inspections** in 47 different NAICS (6-digit) codes
 - 29% of ALL PSM inspections
- **1,704 proposed violations**
 - 46% of ALL PSM inspection violations
- **Average 5.8 violations per inspection** with citations
 - 18% higher violations/inspection than ALL PSM inspections
- **Penalties proposed – total \$USD 10.1 million**
 - 43% of ALL PSM issued penalty dollars
 - **Mean \$USD 33,360 /inspection**
 - Median \$USD 16,722/inspection
 - Max \$USD 615,640

Penalty Distribution: All Food/Cold Storage CHEM NEP vs. ALL CHEM NEP Inspections FY17 to FY21

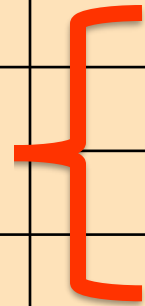
Percent Inspections by Penalty Range



All Food/Cold Storage CHEM NEP Citations by PSM Element – FY17 to FY21

Element	Description	% of PSM Violations
j	Mechanical Integrity	25.2
d	Process Safety Information	24.5
f	Operating Procedures	14.9
e	Process Hazard Analysis	9.5
l	Management of Change	4.9
h	Contractors	4.8
n	Emergency Planning & Response	4.2
o	Compliance Audits	3.6
g	Operator Training	3.4
i	Pre-startup Review	2.1
m	Incident Investigation	1.5
c	Employee Participation	1.3
k	Hot Work	0.2

74%



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

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 & RMP programs are often relegated to the “PSM Coordinator”
 - Personnel in this role rarely have any 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 end-users 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 not involved** until a major incident or significant enforcement action occurs
- The **“business case” has not been made**



The business case for PSM

- **Protection of an investment**
 - As a tool, PSM helps protect an organization's investment in plant property, equipment, buildings, and other infrastructure
- **Protection of plant employees**
 - An effective PSM program aids in protecting your investment in human capital!
- **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

Tuesday, June 2, 2015

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."



Questions?



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