

Accidental Release and Chemical Accident Prevention Programs

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SpencerFane



Overview of Presentation

- Release Reporting
- OSHA's Process Safety Management and EPA's Risk Management Program
- Executive Order 13650
- OSHA June and July 2015 Guidance
- Safer Technology & Alternatives – June 2015
- Anhydrous Ammonia Enforcement
- RMP Enforcement



Release Reporting

- CERCLA
- EPCRA
- RCRA
- Clean Water Act
- OPA
- Clean Air Act
- EPA Region 7 Summary:
<http://www.epa.gov/region7/toxics/factsht.htm>



CERCLA Release Reporting

- 40 CFR Part 302
- Did release go beyond the confines of an enclosed structure?
- Is the material a CERCLA “hazardous substance”?
- Was there a release greater than or equal to Reportable Quantity (RQ) in 24-hour period?
- Report “immediately” to:
 - National Response Center (NRC) (800) 424-8802
 - Missouri State Emergency Response Commission (SERC) (573) 634-2436
 - EPCRA requires CERCLA releases be reported to LEPCs



EPCRA Release Reporting

- 40 CFR Part 355
- Did release go beyond the boundary of the facility?
- Is the material an EPCRA “extremely hazardous substance”?
- Was there a release greater than or equal to RQ in 24-hour period?
- Report “immediately” to:
 - Missouri SERC (573) 634-2436
 - Local Emergency Planning Commission (LEPC)
 - Note, written follow-up also required



What about Mixtures?

- If percentage weight of hazardous constituent is unknown, use total amount of mixture weight for analysis
- If concentration is known, determine volume of release by multiplying concentration by the overall weight of the mixture



RCRA Release Reporting

- Permit-based
- Has there been a fire, explosion, or other release of hazardous waste or hazardous waste constituent which could threaten human health or environment?
- Report to:
 - NRC (800) 424-8802
 - EPA Region 7 24-hour Spill hotline (913) 281-0991
 - Missouri SERC (573) 634-2436



Clean Water Act Release Reporting

- Releases to Navigable Waters 40 CFR Part 117
 - Has any CWA listed “hazardous substance” been released into a navigable water?
 - Is there an RQ exceedance in a 24-hour period?
 - Report: NRC, EPA Region 7 24-hour Spill Hotline and Missouri SERC
- Release to Sanitary Sewer 40 CFR Part 403
 - Was release authorized by industrial pretreatment permit?



Oil Pollution Act Release Reporting

- 40 CFR Part 110
- Is the spill to navigable waters or adjoining shorelines?
- Could water quality standards be violated?
- Could the spill cause a “sheen,” “film,” or discoloration?
- Could the spill cause a sludge or emulsion?
- Report: NRC, SERC





Oil Spills Continued

- Facilities subject to SPCC must also report to EPA Region 7 if:
 - More than 1,000 U.S. gallons of oil in a single discharge;
 - More than 42 U.S. gallons of oil in each of two discharges reach navigable waters or adjoining shoreline within any twelve month period
- Missouri – Did release exceed 50 gallons? If so, report to Missouri SERC



Clean Air Act Release Reporting

- Permit-based
- Part 70 -Emergency causing exceedance of emission limitations of permit
- Part 63 - Startup, shutdown and malfunctions not consistent with procedures in source's plans



OSHA - Process Safety Management

- 29 CFR 1910.119
- Highly hazardous chemicals that have the potential to cause a catastrophic incident
- National Emphasis Program – November 29, 2011
- https://www.osha.gov/OshDoc/Directive_pdf/CPL_03-00-014.pdf



PSM - Highly Hazardous Chemicals

- Employee participation
- Process Safety Information (PSI)
- Process Hazard Analysis (PHAs)
- Operating Procedures (SOPs)
- Training
- Contractors
- Pre-startup Safety Review (PSSR)
- Mechanical Integrity (MI)
- Hot Work Permits
- Management of Change (MOC)
- Incident Investigation (II)
- Emergency Planning and Response
- Compliance Audits (every 3 years, triennial)
- Trade Secrets



RMP – Regulated Substances (Toxic and Flammable)

- Hazard Assessment
 - Off-site consequence
 - Worst-case scenario analysis
 - Alternative release scenario analysis
 - 5-year accident history
- Prevention Program
 - (All of the PSM elements, except emergency response and confidential business information which are addressed elsewhere in RMP rule)
- Emergency Response Plan
- Tiered Approach – Program 1 - 3



Industrial Accidents

- Formosa Plastics – April 23, 2004 – 5 fatalities
- Texas City Refinery – March 23, 2005 – 15 fatalities, over 170 injuries
- Tesoro Refinery – April 2, 2010 – 7 fatalities
- West Fertilizer Plant – April 17, 2013 – 14 fatalities (12 volunteer fire fighters)





Executive Order 13650 - Improving Chemical Facility Safety and Security

- Improve operational coordination with state and local partners;
- Enhance Federal agency coordination and information sharing;
- Modernize policies, regulations and standards; and
- Work with stakeholders to identify best practices.
- August 1, 2013 - <http://www.whitehouse.gov/the-press-office/2013/08/01/fact-sheet-executive-order-improving-chemical-facility-safety-and-securi>



EO 13650 – Departments Involved

- U.S. Department of Homeland Security (DHS)
- U.S. Department of Agriculture (USDA)
- U.S. Department of Justice (DOJ)
- U.S. Department of Labor (DOL)
- U.S. Department of Transportation (DOT)
- U.S. Environmental Protection Agency (EPA)



EO 13650

- Modernizing Policies, Regulations, and Standards
- OSHA – Request for Information (RFI) concerning PSM Program
- 78 Fed. Reg. 73756 (Dec. 9, 2013)
- Comments were due by March 31, 2014
- <http://www.gpo.gov/fdsys/pkg/FR-2013-12-09/pdf/2013-29197.pdf>



EO 13650 – Improving Stakeholder Coordination

- February 2014 Update – Working Group Focus on Six Key Categories
 - Expand engagement of regulated community in local emergency planning process
 - Improve training for First Responders and comprehensive HAZWOPER standard
 - Technical assistance to SERCs, LEPCs, on prevention and preparedness
 - Identify and coordinate funding sources for LEPCs
 - Increase use of electronic reporting and data mgmt.
 - Improve public participation in emergency response planning



OSHA PSM Guidance Summer 2015

- RAGAGEP Guidance – June 5, 2015
 - https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTEGRATIONS&p_id=29414
- Chemical Concentration – June 5, 2015
 - https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTEGRATIONS&p_id=29411
- Retail Exemption – July 22, 2015
 - https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTEGRATIONS&p_id=29528



Safer Technology and Alternatives – June 2015

- Hierarchy of Controls
 - Inherent
 - Passive
 - Active
 - Procedural
- Inherently Safer Approach
 - Substitution
 - Minimization
 - Moderation
 - Simplification



Anhydrous Ammonia: PSM Enforcement

Schwan's Global Supply Chain Inc. – March 2014

- Process Safety Information (PSI) and Process Hazard Analyses (PHAs) were not made available to refrigerant tech workers;
- Inadequate PSI;
- Inaccurate listing of relief valves (RVs)
- P&IDs were not up-to-date;
- SOPs were not available;
- No annual certification of SOPs;
- Insufficiencies in MI and management of change (MOC) protocols;
- No training on safe work practices; and
- Equipment did not comply with recognized and generally accepted good engineering practices (RAGAGEP).
- OSHA seeking more than \$185,000

http://www.spencerfane.com/environmental_law_solutions/blog.aspx?entry=523



Anhydrous Ammonia: PSM Enforcement

- OSHA Region 7 (Sept. 2013)
- Nebraska Cold Storage
- \$132,800 sought

http://www.spencerfane.com/environmental_law_solutions/blog.aspx?entry=453



Anhydrous Ammonia RMP Enforcement

- Millard Refrigerated Services – June 2015
- \$3 million settlement with DOJ and EPA
- RMP, General Duty Clause, EPCRA and CERCLA
- Equipment failure from hydraulic shock
- Hospitalization and treatment of workers responding to Gulf Oil Spill
- http://www.spencerfane.com/environmental_law_solutions/blog.aspx?entry=727





Anhydrous Ammonia RMP Enforcement

- Tyson Foods – April 2013
 - Failure to follow recognized and generally accepted good engineering practices (RAGAGEP) including the testing and replacement of safety relief valves;
 - Inadequate SOPs;
 - Deficiencies with MI;
 - Insufficient PSI including outdated piping and instrument diagrams (P&IDs);
 - Failure to complete II
- \$3.95 million civil penalty and fund a \$300,000 Supplement Environmental Project (SEP) through the purchase of emergency response equipment.
- Third-Party Audits required at 23 facilities in Region 7 EPA

<http://www.spencerfane.com/food-production-company-settles-anhydrous-ammonia-rmp-violations-for-42-million-04-21-2013/>



Anhydrous Ammonia RMP Enforcement

- Columbus Manufacturing
- Meat processing facility in San Francisco
- 2 releases in 2009, second release injured 30 and hospitalized 17
- \$850,000 penalty with San Mateo County
- \$685,000 penalty with EPA
- \$6 million in upgrades to refrigeration system

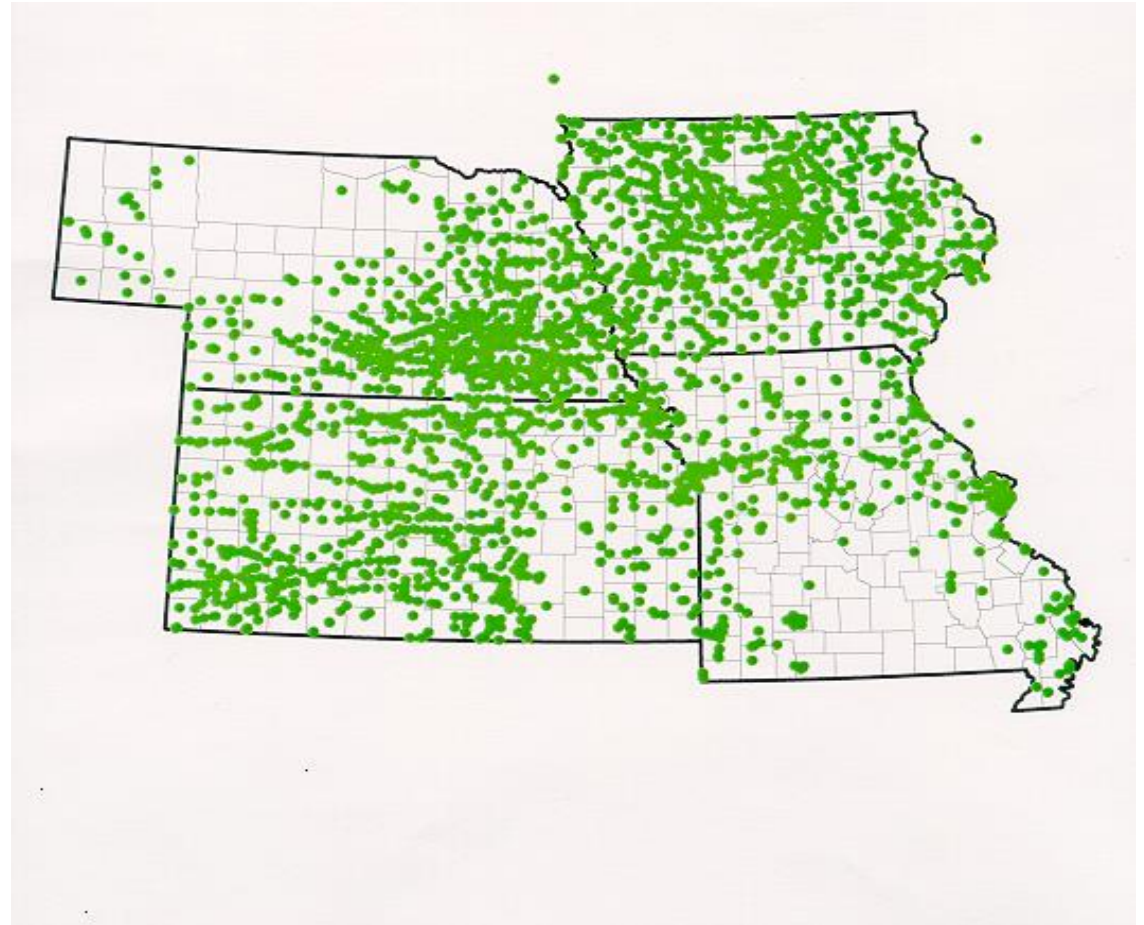


Anhydrous Ammonia: RMP Enforcement

- DynoNobel (Missouri) - \$257,167
- EPA Region 7 – Oct. 2013
- RMP / CERCLA / EPCRA Violations
- http://www.spencerfane.com/environmental_law_solutions/blog.aspx?entry=453
- Wilbur-Ellis Company (Kansas)
- EPA Region 7 – Jul. 2015
- Three fertilizer plants - \$67,404 and SEP \$113,131

EPA Region 7 RMP Facilities

- Approx. 2,500 RMPs
- Approx 20% of the U.S. total
- 88% RMP filers in Region 7 associated with three chemicals





EPA Enforcement Trends 112(r)(1) and 112(r)(7)

- More Onsite Inspections
- Higher Penalties
 - 2010 - \$15 million civil penalty (largest ever assessed)
- Cases with referrals
- Review of facilities that deregistered



EPA Enforcement Trends 112(r)(7)

- Region 7 Administrative Cases 2007 – 2015
 - 2007 – 22 Cases
 - Highest Penalty - \$9,550
 - 2008 – 20 Cases
 - Highest Penalty - \$46,000 (includes SEP)
 - 2009 – 19 Cases
 - Highest Penalty - \$50,778
 - 2010 – 20 cases
 - Highest Penalty - \$79,367
 - Combined SEP and penalty \$137,790



EPA Enforcement Trends 112(r)(7) cont.

- 2011 – 23 Cases
 - Highest Penalty \$115,675
 - Combined SEP and penalty \$115,675
- 2012 – 8 Cases
 - Highest Penalty - \$36,000
 - Combined SEP and penalty \$322,025
- 2013 – 18 Cases
 - Highest Penalty - \$257,167
 - Combined SEP and penalty \$371,075



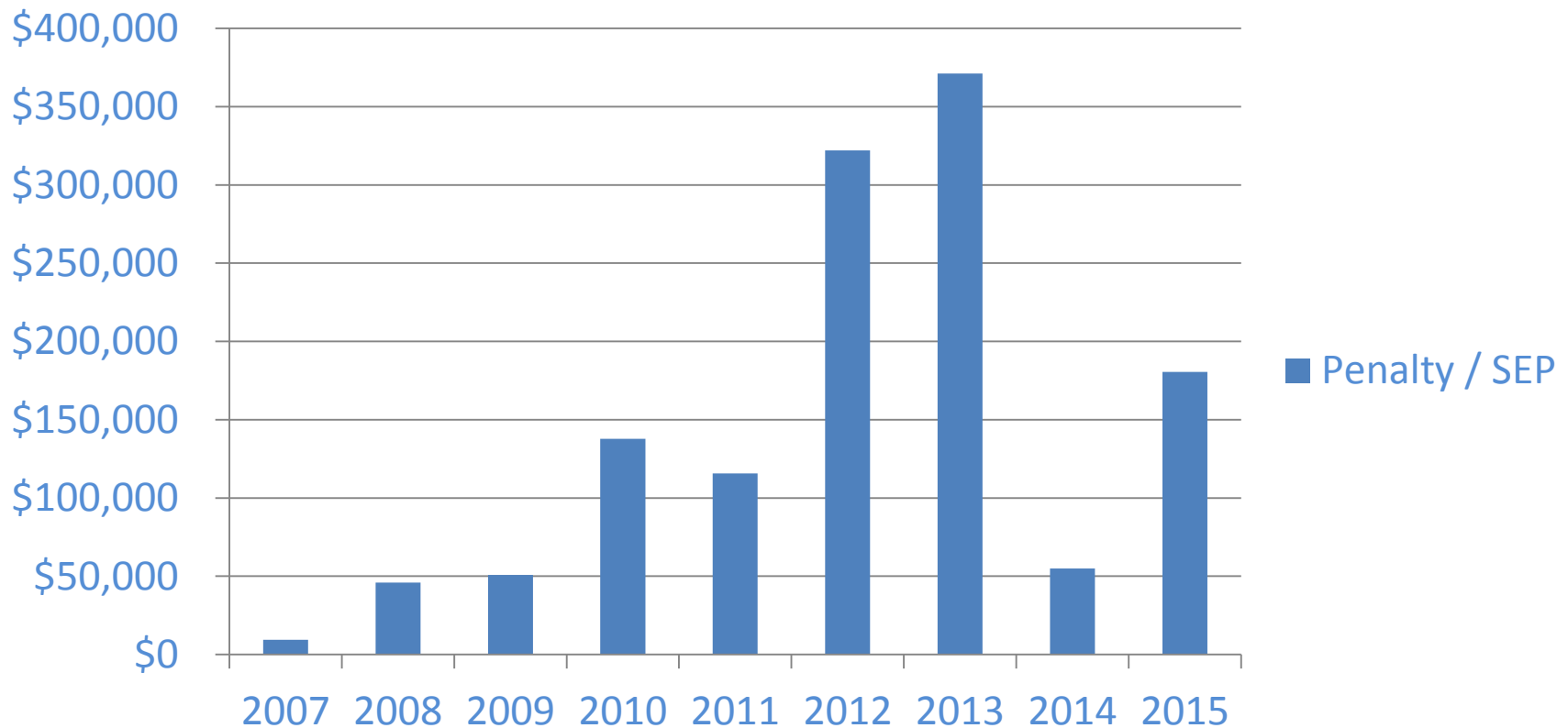
EPA Enforcement Trends 112(r)(7) cont.

- 2014 – 23 Cases
 - Highest Penalty - \$51,451
- 2015 – 17 Cases
 - Highest Penalty - \$67,404
 - Combined SEP and Penalty - \$180,525



Region 7 Administrative Cases

Penalty / SEP





EPA Enforcement Trends 112(r)

- Region 7 Judicial Cases
 - 2007 – Waldbaum – 112(r) and CWA violations, \$133,000 for 112(r) violations
 - 2009 – Frontier Refining – 112(r)(7) RMP violations - \$358,051 penalty, \$180,000 SEP (rapid deployment kits)
- General Duty Clause Enforcement 112(r)(1)
 - 2008 – ChemCentral - \$225,000 and response costs of \$150,000
 - 2010 – Region 6 EPA - \$15 million – Texas City Refinery
- Compliance orders associated with inspections and mechanical integrity – good engineering practices



EPA Enforcement Trends 112(r)(7) – What’s Causing the Shift

- Enforcement in past - did the company file?
 - Shift away from June 21, 1999 filing deadline to on-site inspections
- EPA/OIG Report Feb. 2009 Recommendations
- More news attention to chemical accidents and industrial releases and explosions
 - Gulf of Mexico
 - West Fertilizer Plant - Texas
 - West Virginia Chemical Spill





EPA Enforcement 112(r)(7) - Enforcement Mechanisms

- Warning Letter
- Issuance of Finding of Violation
- Penalty Actions
 - Expedited Settlement Agreements (ESAs)
 - Administrative Penalties
 - Civil Judicial Enforcement (referrals to DOJ for cases with penalties in excess of \$295,000)
- Issuance of Compliance Order
- Criminal Penalties



EPA Enforcement 112(r)(7)

Understanding the Penalty Policy

- Penalties are comprised of two overarching components:
 - gravity of the violation
 - economic benefit
- Gravity of the violation based on:
 - Seriousness of the violation;
 - Duration of the violation;
 - Size of the violator
- Adjustment factors





Understanding the Gravity Penalty

Seriousness of Violation

		Potential for Harm		
		Minor	Moderate	Major
Extent of Deviation	Major	\$25,000	\$30,000	\$37,500
		\$20,000	\$25,000	\$30,000
	Moderate	\$10,000	\$15,000	\$20,000
		\$5,000	\$10,000	\$15,000
	Minor	\$1,000	\$3,000	\$5,000
		\$500	\$1,000	\$3,000



Understanding the Gravity Penalty Duration of Violation



Months	Penalty
0-12	\$750 per month
13-24	\$1,500 per month
25-36	\$2,250 per month
37+	\$3,000 per month



Understanding the Gravity Penalty Size of Violator

Net Worth	Size Adjustment
Under \$1,000,000	\$0
\$1,000,000 – \$5,000,000	\$10,000
\$5,000,001 – \$20,000,000	\$20,000
\$20,000,001 – \$40,000,000	\$35,000
\$40,000,001 – \$70,000,000	\$50,000
\$70,000,001 – \$100,000,000	\$70,000
Over \$100,000,001	\$70,000 + \$25,000 for every additional \$30,000,000



EPA's 112(r)(7) Penalty Policy Adjustment Factors

- Degree of culpability;
- History of violations;
- Good-faith / cooperation;
- Ability to pay;
- Offsetting penalty to state/local government;
- Special circumstances;
- Use of Supplemental Environmental Projects (SEPs)



112(r)(7) RMP Expedited Settlement Agreement Policy

- Penalties generally less than \$7,500
- Title V facilities not eligible
- Minor, easily correctable violations
- Cannot be used if there is an imminent and substantial endangerment to human health or environment
- No repeat violations in last 5 years for the same or closely related violation at same facility or multiple facilities



RMP Criminal Enforcement

- Roberts Chem. Co. (D.Mass. 2014)
- \$200,000 fine and 5 years of probation
- Ethyl Ether 10,000 lb.
- Storing 27,467 lb.





RMP Criminal Enforcement

- Mann Distribution, LLC (D.R.I. 2015)
- \$200,000 fine, 3 year probation term
- Hydrofluoric acid – 1,000 lb. threshold
- Company storing 46,000 lbs. (i.e., 92 drums)





RMP Criminal Enforcement

- Hershey Creamery Co. (M.D. Pa. Nov. 2008)
 - Failure to develop risk management programs at two facilities
 - Guilty plea to felony CAA violation and \$100,000 fine
- MFA, Inc. (E.D. Mo. Oct. 2007)
 - Employee injured while loading anhydrous ammonia from bulk tank to nurse tank;
 - Negligent failure to inspect, detect wear, replace valve
 - Guilty plea to negligent release provisions of CAA, resulting in \$100,000 fine and \$600,000 in required safety upgrades



112(r) Enforcement Misc. Issues

- Interplay of 112(r)(1) General Duty Clause and 112(r)(7) RMP
- Increased employee participation in RMP inspections





Questions?

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