



EPA Region 7 Planning and Prevention of Ammonia Releases

Jodi Harper

Kansas City, KS

GCAP Ammonia Safety Day

June 2016



Changes at EPA Region 7

- Chemical programs (CAA 112(r) and EPCRA non-313) and oil programs (SPCC and UST/LUST) combined to form one branch
- Chemical and Oil Release Prevention Branch
 - New Branch Chief – Scott Hayes
 - New CAA 112(r) & EPCRA non-313 Team Lead – Patricia Reitz
 - New Outreach Coordinator – Terri Blunk
 - Hired several new employees



Executive Order 13650 Update – 2015 Milestones

- Established EO Workgroup with key federal and state partners
 - Tri-chaired by EPA, OSHA, DHS
- Improved interagency communication
 - What chemical programs exist?
 - Are facilities required to report?
 - Where are facilities with chemicals of interest?



Executive Order 13650 Update – 2015 Milestones

- December 2015 Workshop
 - Included state and federal agencies that conduct on-site field work and inspections
 - Shared information on inspection priorities at DHS/EPA/OSHA
 - Learned what each group looks for when visiting facilities





Top 10 List for EPA Inspections

- Releases
- Facilities have EHS chemicals
- Poorly maintained equipment and/or poor chemical housekeeping
- Chemical staining, spillage, dumping, burial
- Vessels/containers leaking and no action being taken





Top 10 List for EPA Inspections

- Appearance of dumping untreated waste/chemicals down drains, storm sewers, or waterways
- More than 500 pounds anhydrous ammonia, 100 pounds chlorine gas, or 10,000 pounds any chemical and local responders do not know
- No emergency procedures/plan in event of chemical spill
- Significant tankage of oil/petroleum without secondary containment
- Visual dense smoke or dust (not steam) leaving facility



Lessons Learned Information System

- High-performing organizations share best practices on chemical facility safety and security, and on community preparedness
- Best practices are
 - Voluntary
 - Documented
 - Measurable
 - Repeatable
 - Subject to evaluation





Types of Best Practices

- Technology
- Training
- Safer Alternatives
- Process Safety
- Administrative
- Other





Best Practices Continuum

| | Innovative Practice | Promising Practice | Proven Practice |
|---------------------|--------------------------------------|--|--------------------------------------|
| Success | Early evidence of success | Demonstrates success | Success in a number of organizations |
| Repeatability | Shows potential for being repeatable | Limited repeatability | Broad repeatability |
| Rigor of Evaluation | Limited or no evaluation data | Some internal and external evaluation data | Independent research conducted |



Example Topics for Best Practices for Industry

- Coordinating preparedness and response activities with local communities
- Coordinating and planning with first responders
- Improving facility safety and security operations
- Improving safety and security throughout the supply chain





Example Topics for Best Practices for Federal-State-Local-Tribal

- Obtaining and interpreting risk information
- Planning for large scale emergencies
- Balancing the importance of community safety





Submit Best Practices

- Request form: eo.chemical@hq.dhs.gov
- Submit form: eo.chemical@hq.dhs.gov
 - Subject line: Chemical Safety and Security Best Practice Submission
- All submissions reviewed by a workgroup prior to forum posting
- For more information
 - Chemical EO Website
<https://www.osha.gov/chemicalexecutiveorder/LLIS/index.html>
 - Email eo.chemical@hq.dhs.gov



View Lessons Learned

- Authored content documents trend analysis, grant cases, webinars, lessons learned, innovative practices
- FEMA
<https://www.fema.gov/lessons-learned-information-sharing-program>
- Homeland Security Digital Library
<https://www.hSDL.org/c/>



OSHA's Retail Exemption

- July 25, 2015: OSHA issued revised interpretation of exemption of retail facilities from coverage under the Process Safety Management (PSM) standard
 - PSM will now cover all of NAICS sectors 44 and 45
 - Includes agricultural fertilizer cooperatives
- Doesn't impact refrigeration facilities
 - Already covered by PSM



Modernization of the Risk Management Program Rule

- Details found at: <http://www.epa.gov/rmp/proposed-changes-risk-management-program-rmp-rule>
- Estimated affected refrigeration facilities
 - Food and beverage manufacturing (311, 312) 1,472
 - Warehousing and storage (493) 1,056
 - Other (44, 45, 48, 54, 56, 61, 72) 248



Proposed Revisions Include

- Third Party Audits
- Incident Investigations and Root Cause Analysis
- Safer Technology Alternatives Analysis
- Local Coordination
- Emergency Response Exercises
- Information Sharing to LEPCs
- Increasing Access to Existing Public Information
- Changes to Elements Reported on RMP



Emphasis on Making Improvements After Incidents and Accidents



- Root cause analysis required as part of incident investigations
- Independent third-party contractor required to conduct compliance audit after facility has reportable release



Enhance Coordination with Emergency Responders

Applies to all facilities with Program 2 or Program 3 processes

- Annual coordination with local emergency response agencies
- Conduct notification exercises annually
- Provide summaries to Local Emergency Planning Committee (LEPC), Tribal Emergency Planning Committee (TEPC), or other response agencies upon request
 - Compliance audits, emergency response exercises, accident history and investigation reports



Enhance Coordination with Emergency Responders

Applies to all responding facilities

- Conduct full field exercise at least once every five years
- Conduct one tabletop exercise annually in the other years





Enhanced Availability of Information

- Provide certain basic information to the public through easily accessible means
 - On facility website (if a website exists)
 - At public libraries, government offices, or other appropriate community for facilities with no website
- Hold a public meeting for local community within a specified timeframe after an RMP-reportable accident



Moving Forward

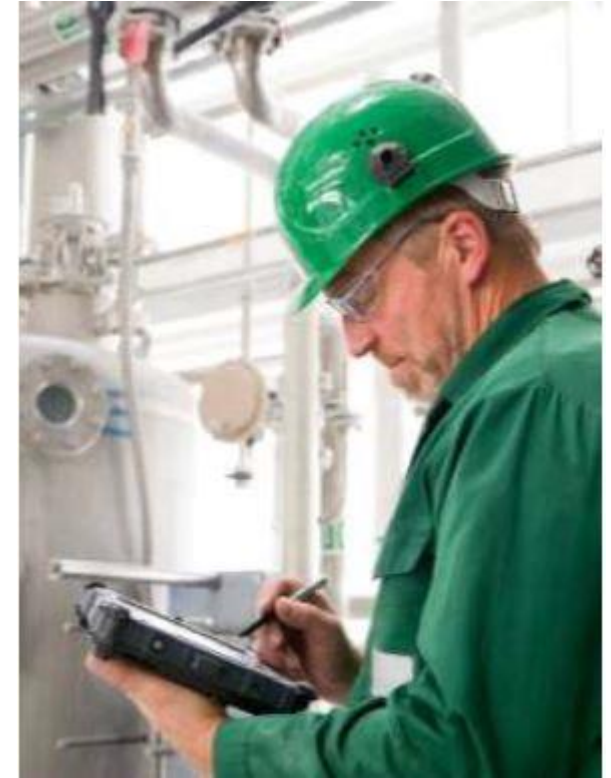
- Public comment period ended May 13th
- Region 7 will provide outreach once rule is finalized
- Provide ideas for outreach / training to CORP's Outreach Coordinator

Get to know your LEPC

Industry involvement is key to a successful LEPC

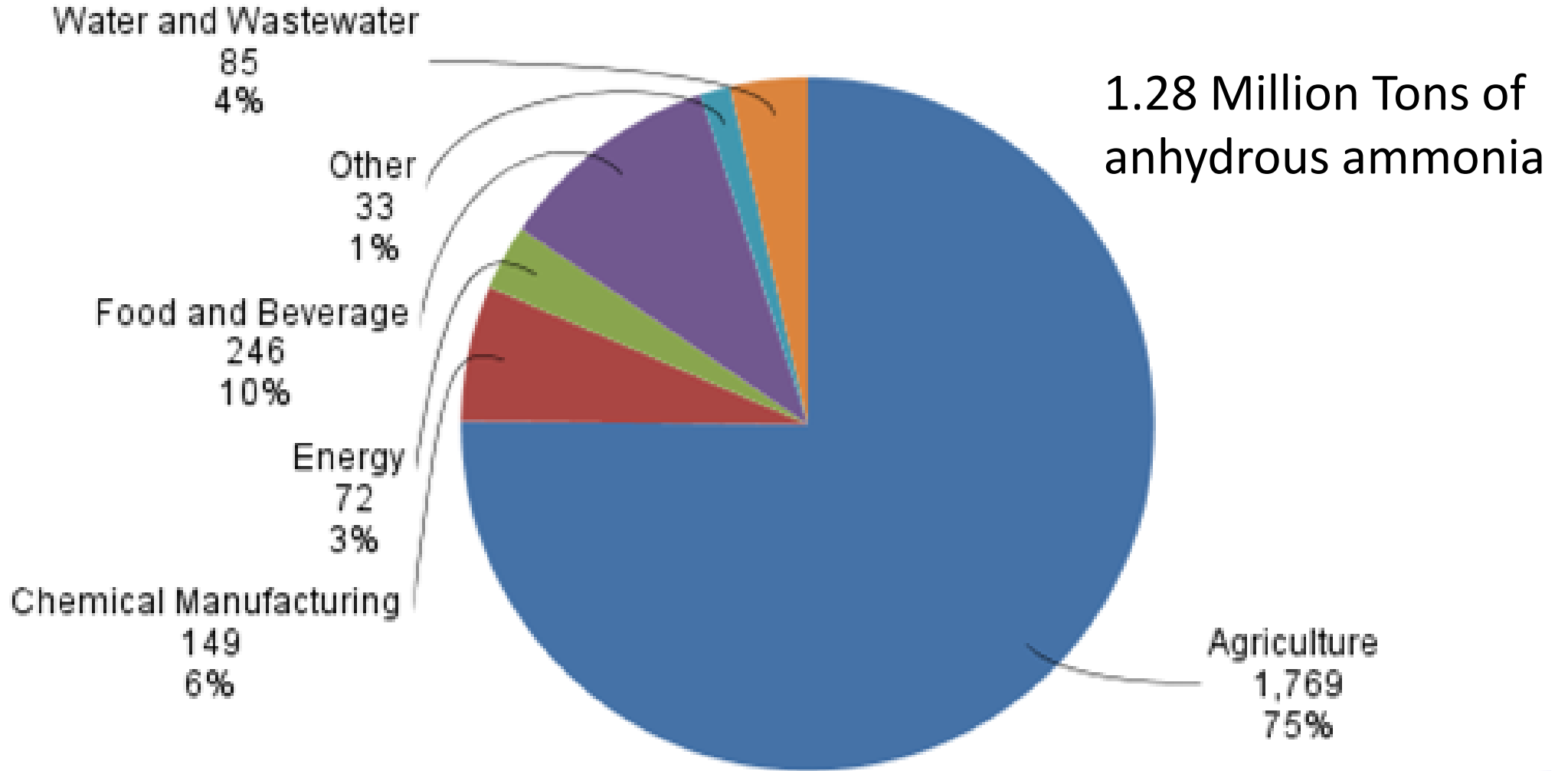


Risk Management Program Inspections and Findings





Region 7 Facilities by Industry



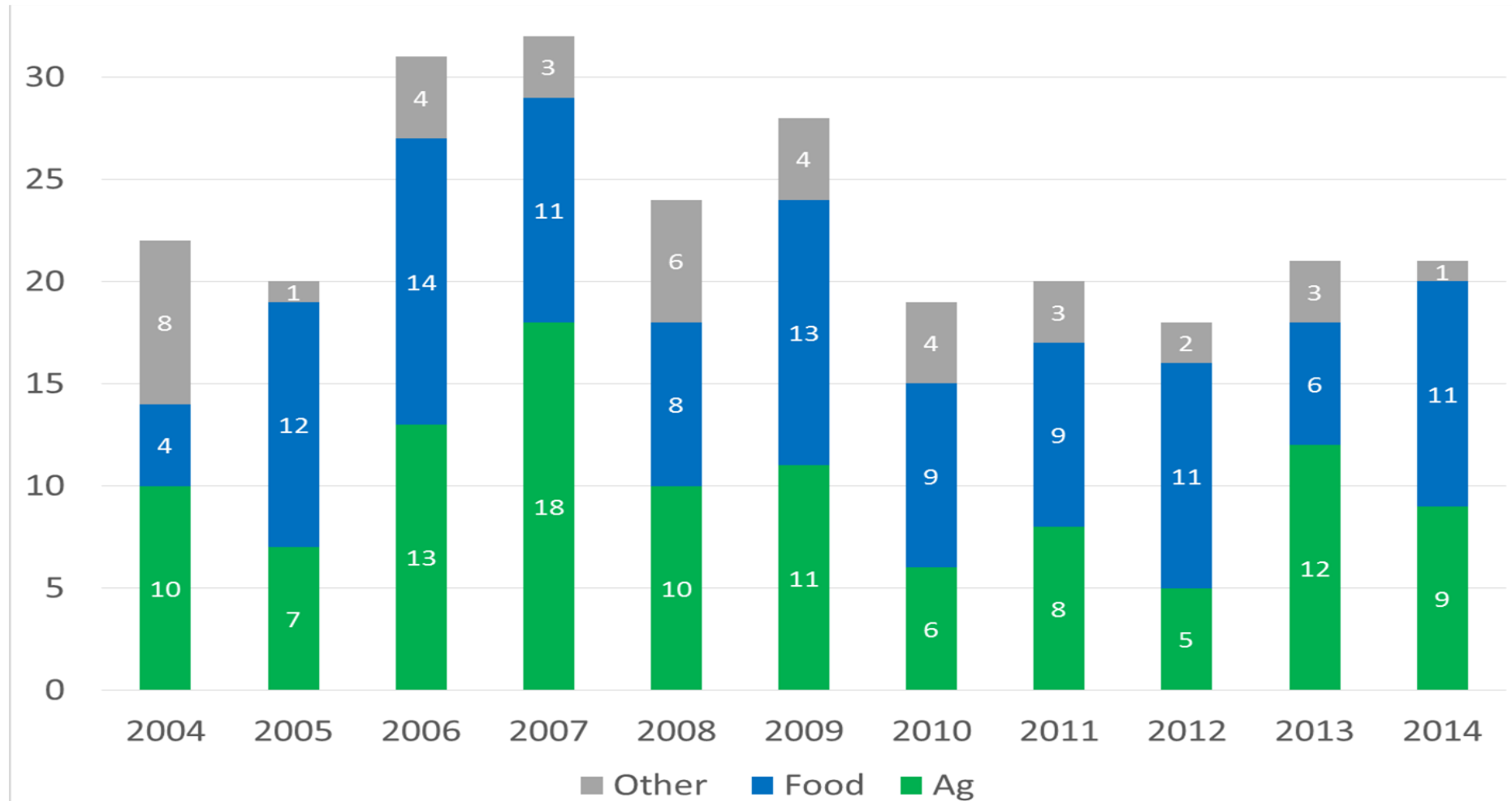


RMP Reportable Accidents

- **No** quantity thresholds
- Must include in Five-Year Accident History in RMP if resulted in
 - Death
 - Injury
 - Significant property damage
 - Off-site shelter-in-place, evacuation, environmental damage



Region 7 RMP Accidents 2004-2014





Releases/Accidents/Incidents

| | EPCRA 304 Release | CAA 112(r) Accident | CAA 112(r) Incident Investigation |
|---------|--|--|--|
| Trigger | Reportable quantity (100 pounds for ammonia) | No reportable quantity | Any incident that could have resulted in a catastrophic release. Could include <ul style="list-style-type: none"> EPCRA reportable releases RMP reportable accidents Event where nothing was released |
| Notes | Call <ul style="list-style-type: none"> LEPC SERC NRC | Considers consequences <ul style="list-style-type: none"> Deaths, injuries, hospitalization, property damage Off-site shelter-in-place, evacuation, environmental damage | Determine causes and complete follow-up to prevent recurrence |
| When | Within 15 minutes | Update RMP within 6 months | Start within 48 hours |



Quick Ways to Be Added to Our Inspection List

- Have accidents or releases, especially where
 - Several people need treatment or someone dies
 - Public is impacted
 - Significant off-site environmental impact
- Miss a five-year RMP submittal update
- Have >10,000 lbs. ammonia and no RMP





Other Inspection Considerations

If a facility has *No RMP and...*

- Indications exist that the facility has Risk Management Program chemicals greater than the threshold quantity
 - Tier II reports
 - Toxic Release Inventory reports
 - Release/accident reports
 - Media, CERCLA/EPCRA, other federal/state/local agencies
 - Deregistered facilities appear active (Google Earth Maps, other mapping software)



Other Inspection Considerations

If a facility has *submitted an RMP and...*

- Resubmission is late
- A tip, complaint, or referral is received
- RMP-reportable accident at facility
 - Reported on RMP
 - Likely should have been reported on RMP
- Sector non-compliance
- Agency considers “High Risk”





Notification of Inspection

**Advance notification of
inspection is not required**



Inspection Process

- Arrival
- Opening Conference
- Document Review
- Facility Walk-Through
- Inspector Determines Preliminary Findings
- Closing Conference



Inspection - Opening

- Inspector shows credentials/intro letter
- Discuss agenda
- Review forms
 - Notice of inspection
 - Receipt for samples/documents
 - Multimedia checklist
 - Confidential Business Information (CBI) disclosure form
 - Preliminary findings



Inspection – Document Review

- Format
 - Will scan paper documents
 - Can save electronic documents directly to flash drives
- Paper copies may be taken if
 - Document won't fit through scanner
 - Document contains CBI
- Facility will have opportunity to copy documents scanned to flash drive before inspector leaves



Typical Documents Reviewed

- RMP – submittal responses/dates
 - Request to see documents referenced
 - Recommendation - when submitting RMP create a file supporting submittal dates and responses
- EPCRA Tier II report
- OSHA 300 log (if required) – looking for chemical accidents
- Off-site Consequence Analysis (OCA) documentation
- Emergency response documents



Typical Documents Reviewed (cont.)

Bulk of time spent on prevention program elements

- Process Safety Information
- Process Hazard Analysis (report and tracking)
- Mechanical Integrity (tests, inspections, work orders)
- Compliance Audits (report and tracking)
- Incident Investigations (report and tracking)
- Standard Operating Procedures
- Training
- Other (Change Management, Contractors, Hot Work)



Inspection – Facility Walk-Through

- Encourage employee representative participation
- Compare physical plant to current industry standards/codes/RAGAGEP and Risk Management Program documents
- Take photos of the equipment
- Ask employees questions



End of Inspection

- Inspector develops preliminary findings
- Closing conference
 - Go over preliminary findings
 - Sign receipt for documents
 - Sign CBI declaration



Post Inspection – Inspectors

- Contact local LEPC (toxics) or fire department (flammables) related to emergency response planning
- May request additional information from facility
- Write report



Thoughts from EPA R7 Inspectors

- Recommendation – Take time to make electronic copies of all Risk Management Program documents
 - Back up information
 - Develop recordkeeping procedure
- Make plans for transfer of documents from old owner to new owner
- Don't wait for EPA's phone call or visit to review program



Issues Cited on Process Safety Information

- Use **current** Safety Data Sheet
- Document maximum inventory, temperatures, pressure, flow, and composition
- Document equipment specifications
- Ensure the process is designed in compliance with recognized and generally accepted good engineering practices (RAGAGEP)

9% of 140 violations at 26 facilities inspected 2011-2016 had a PSI violation



Process Hazard Analysis

- What can go wrong?
 - Failure to consider all chemical physical properties
 - Equipment design limitations and maintenance
 - People – training, human error
- Recognized safeguards should be used
- Evaluate every five years
 - Industry standards
 - Accidents/incidents in past five years
 - Changes to facility AND neighboring area



11% of violations – highest in R7



Standard Operating Procedures (SOPs)

- Do not address each phase - particularly temporary operations
 - If temporary operations are not conducted, this must be stated in the SOPs
- Overly generic and do not reflect site-specific practices
- Do not address consequences of deviation or steps required to avoid deviation

7% of violations



Training on SOPs

- Initial training not completed (or documented)
- Refresher training not completed at least every three years

5% of violations



Mechanical Integrity

- Not in accordance with industry standards
- Insulated/covered piping
 - Is it rusting underneath?
- Not performing inspections or tests on process equipment

6% of violations



Compliance Audits

- Not completed every three years
 - Play inspector for a day
 - Consider changes at facility and in industry standards
 - Are you doing what you say you are doing?
 - SOPs
 - Mechanical Integrity
- Not certified

10% of violations – second highest in R7



Emergency Response

- Many facilities indicate on RMP they have an emergency response program when in reality they have an emergency action plan
- **Does the facility respond to anhydrous ammonia releases?**
 - YES, I have a HAZMAT Team – 40 CFR 68.95
 - Answer all the questions in Section 9 of the RMP
 - NO, I rely on local first responders
 - Answer 9.1a, 9.1b, 9.7a, 9.7b, and 9.8
 - No other questions in Section 9; when in doubt, read instructions!

Emergency Action Plan **≠** ***Emergency Response Plan***



Management System

- Not documented
 - Clearly indicate who is responsible for Risk Management Program implementation
- Failure to conduct compliance audits, PHAs, RMP corrections/updates, etc., are indicators of failure of the Management System



RMP Update or Resubmittal Not Timely

- Update emergency contact within one month
- Update accidents within six months
- Resubmit at least every five years (may be more often)



RMP* eSubmit Tips

- Don't wait until the last minute
- Can take up to a week for the Electronic Signature Agreement (by certifying official) to be processed
- If certifying official or preparer has changed, need to set up new personnel



You are Invited!

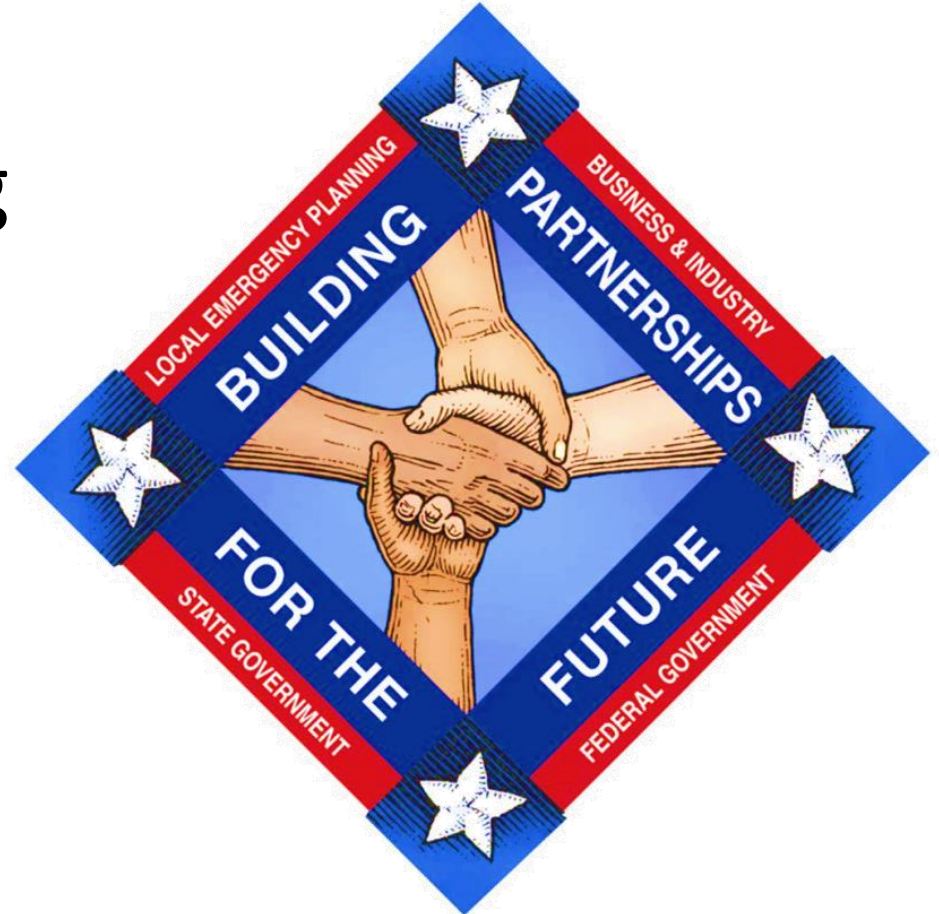
LEPC/TERC Emergency Planning and Response Conference

Summer 2017

Industry Track

Overland Park, Kan.

Contact Patricia Reitz (reitz.patricia@epa.gov)
or Terri Blunk (blunk.terri@epa.gov) for more
information.





For More Information

Pat Reitz

CAA 112(r) Program Coordinator

(913) 551-7674

reitz.patricia@epa.gov

Jodi Harper

Today's Presenter

(913) 551-7483

harper.jodi@epa.gov

Terri Blunk

CAA 112(r) Outreach Coordinator

(913) 551-7013

blunk.terri@epa.gov

EPA's Chemical Risk Website

www.epa.gov/rmp