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Midwest Environmental Compliance Conference

Risk Management Plan

Kansas City Board of Public Utilities

May 17, 2017

BPU Profile

- Electric and Water Utility (over 100 years old)
  - Publicly owned administrative agency of the Unified Government (UG) of Wyandotte County, Kansas City, Kansas
- Customers
  - 63,000 electric
  - 50,000 water
- Revenue source
  - 85% electric
  - 15% water

Nearman Water Treatment Plant

- State-of-the-art water treatment plant
  - Production – 54 MGD; 32 MGD average
- Two of the nation's largest horizontal collector wells
- Three major pump stations
  - Two back up
- 20 MG distribution storage
- 1,000 miles of water pipes
- 6,430 fire hydrants

Federal Regulations

- EPCRA
- Emergency Planning and Community Right-to-Know Act (SARA Title III)
- CERCLA
- Comprehensive Environmental Response, Compensation, and Liability Act (Section 103)

Chemical Accident Prevention Federal Regulations

- OSHA Process Safety Management (PSM)
- EPA Risk Management Program – CAA 112(r)

Texas Fertilizer Plant Explosion - 14 People Killed, Over 100 Injured

Clean Air Act (CAA) 112(r) Purpose

- Prevent accidents from occurring
- Minimize consequences for accidents that do occur

Applicability

- ☑ Does facility have a regulated chemical [any substance on list in 112(r)(3) in 68.130] ?
- ☑ Is quantity of chemical in any single process above specified threshold?
- ☑ **What Program Level is your process?**

NWTP is in Prevention Program Level 2

Threshold Quantities

- Risk Management Programs
  - 140 substances (63 flammable, 77 toxics)
  - Thresholds and NWTP reported substance
    - Chlorine threshold = 2,500 pounds
    - NWTP has 64,000 pounds on-site
  - Ammonia (conc 20% or greater) threshold is 20,000 pounds
    - NWTP reduced ammonia concentration below 20% (from 29%) - below threshold quantities under RMP. BPU still trains on NH3

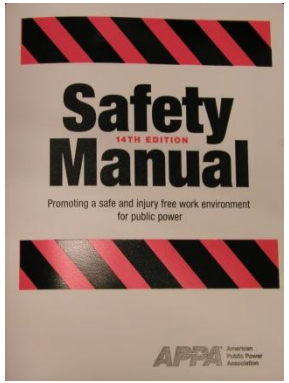
EPA Clean Air Act Amendments 1990

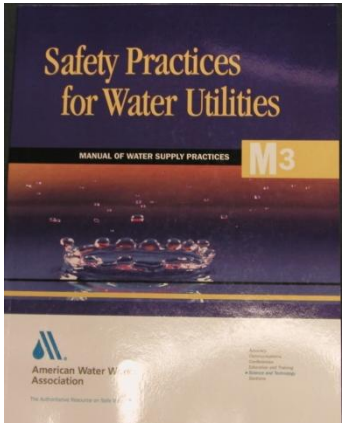
General Duty Clause

- Below threshold quantities
- Facilities must
  - Identify hazards
  - Design and maintain facility to prevent releases in accordance with good engineering and industry practices
  - Minimize consequences of potential releases and releases that do occur

Summary of Program 2 Prevention Program

- ✓ 68.48 Safety Information
- ✓ 68.50 Hazard Review
- ✓ 68.52 Operating Procedures
- ✓ 68.54 Training
- ✓ 68.56 Maintenance
- ✓ 68.58 Compliance Audits
- ✓ 68.60 Incident Investigation





Process Safety Information
What's Needed

- ✓ SDS's - Safety Data Sheets
- ✓ Maximum Inventory
- ✓ Storage and Process Limits
- ✓ Equipment Specifications
- ✓ Codes and Standards

Initial Training Curriculum

- ✓ Process Overview-Training Manual
- ✓ Operating Procedures and Limits
- ✓ Safety and Health Hazards
- ✓ Maintenance Procedures
- ✓ Safe Work Practices
- ✓ Hands-on Demonstration
- ✓ Emergency Response

Training

- ✓ Create a training manual with all necessary documentation so that everything is in one place
- ✓ Require all employees that work on covered systems to be trained and document the training
- ✓ All employees are trained on all chemicals upon hire
- ✓ Make Safety a priority. Think OSHA!
- ✓ Make sure that workers understand how to operate safely and carry out their tasks properly
- ✓ Practice your plan. Make it part of your day
- ✓ Do something that fits your organization

Refresher Training Policy

- ✓ Refresher Training – at least every 3 years. NWTP performs this annually
- ✓ Develop a Refresher Training Curriculum
  - Review previous training provided, initial training
  - Review any accidents or near-miss accidents
  - Review incidents at similar facilities
  - Utilize training software to allow operators to do refresher training on-line from a desktop computer
- ✓ Training Documentation

  Name of Employee
  Position
  Covered Processes
  Whether or not employee has been certified as competent for each process
  Name of Training
  Training Provider
  Dates of Training

http://bpu.articulate-online.com/7893504332

Hazard Review Process

- Review hazards of regulated substances, processes and procedures
- Identify:
  - Equipment malfunction
  - Human errors
  - Safeguards
  - Methods to monitor releases

Hazard Review Process

- Review hazards of regulated substances, processes and procedures
- Use: Checklists
- Document hazard review
- Ensure problems resolved
- Document! Document! Document!

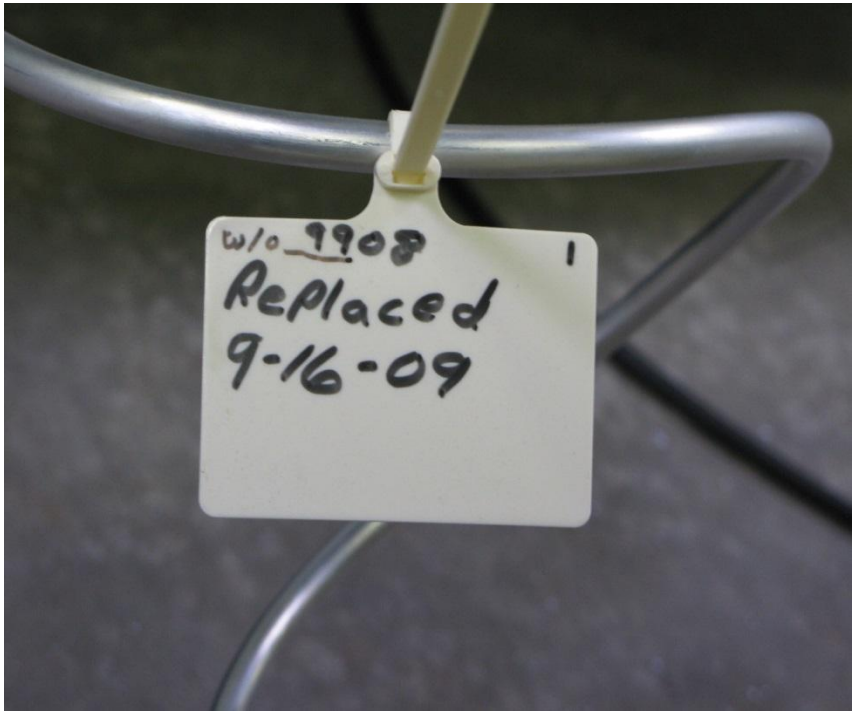
Operating Procedures

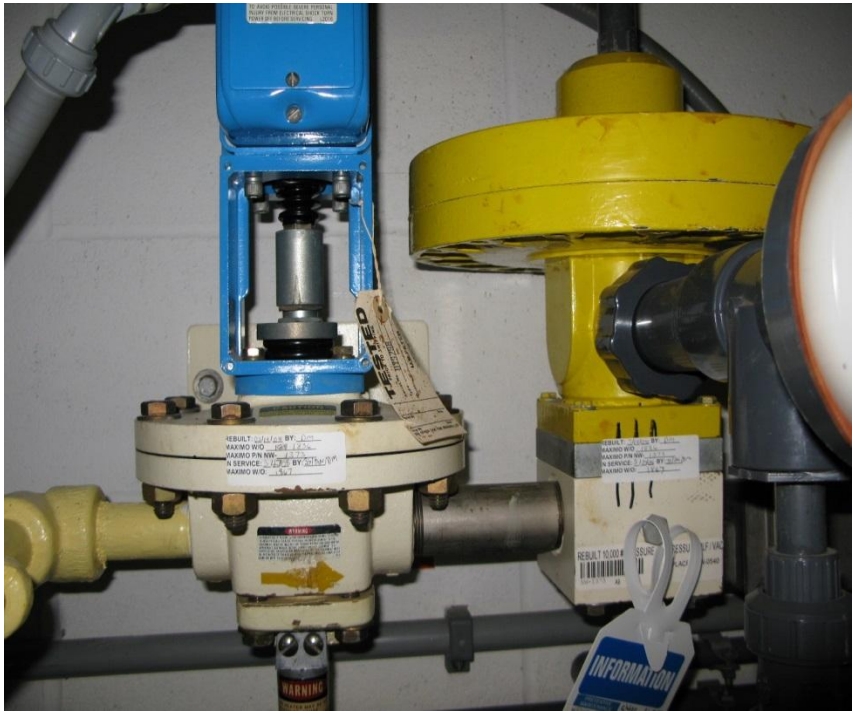
- ✓ Clear instructions for each covered process.
- ✓ The procedures shall address the following:
  - Initial startup
  - Normal operations
  - Temporary operations
  - Emergency shutdown
  - Emergency Operations
  - Normal shutdown
  - Startup following a normal or emergency shutdown
  - Consequences or deviations and steps required to correct or avoid deviations.
  - Equipment inspections
- ✓ Updated whenever a change to the process changes.

Maintenance

- ✓ Manufacturers' recommendations
- ✓ Asset management program
- ✓ Document maintenance activities
- ✓ Workers trained and competent

Documented Maintenance Equipment





Compliance Audit

- ✓ At least every three years
- ✓ Make a checklist
- ✓ Include staff
- ✓ Document, Document, Document
- ✓ Correct any deficiencies
- ✓ Keep audit with the RMP
- ✓ Consider an qualified outside party to conduct the audit

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Incident Investigation

- ✓Timing is everything
- ✓Summarize
- ✓Establish a system
- ✓Share
- ✓Keep with RMP for at least five years

Nearman Water Treatment Plant – Some Historical Facts

- February 2011
  - USEPA Inspection
    - NH3 pressure relief valve system
- May 2011
  - Department of Homeland Security
  - NWTP identified by Kansas Division of Emergency Management as a critical facility based on the potential population affected in the event of a chemical worst-case scenario
- June 2012
  - BPU Hosted Tabletop with LEPC's, employees, and local business to discuss potential releases and corrective action and emergency response activities

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QUESTIONS