LESSONS LEARNED FROM OSHA’S REFINERY AND PILOT CHEMICAL NEP’S

Compiled by Primatech Inc.

(March, 2013)

This document provides a summary of lessons learned so far with OSHA PSM NEP inspections. These lessons learned can be used to help prepare for a NEP inspection by OSHA.

Findings from the Refinery NEP

• The list-based approach finds more hazards than the PQV approach.
• List questions result in citations on other issues.
• Focus on RAGAGEP resulted in a large number of deficiencies.
• Facility siting is an issue.
• The most-frequently cited PSM elements in the refinery NEP were:
  • Mechanical integrity
  • Process safety information
  • Operating procedures
  • Process Hazard Analysis
  • Management of change
• Based on citations, points of weakness are:
  • MI: No written procedures, operation with equipment deficiencies, inspection and testing did not follow RAGAGEP, and incorrect frequencies.
  • PSI: equipment information (P&IDs missing or incorrect, failure to document compliance with RAGAGEP, relief system design and design basis not documented).
  • PHA: findings / recommendations not addressed, facility siting not addressed
• SOPs: emergency shutdown not addressed, safe work practices not established
• MOC: Not established or implemented
• Citations reflect in part, the specialized training received by OSHA inspectors in topics such as process safety information and incident investigation.
• Refineries are not resolving PHA and audit recommendations and findings at a rate expected for such companies.

Findings from the Pilot Chemical NEP

• The most-frequently cited PSM elements in the pilot chemical NEP were:
  • Mechanical integrity
  • Process safety information
  • Process Hazard Analysis
  • Operating procedures
  • Management of change

• Based on citations, points of weakness are:
  • MI: No written procedures, operation with equipment deficiencies, inspection and testing not performed and incorrect frequencies.
  • PSI: equipment information (P&IDs not accurate, failure to document compliance with RAGAGEP, relief system design and design basis not documented).
  • PHA: PHA not performed, findings / recommendations not addressed, hazards of the process not addressed
  • SOPs: no written procedures, no annual certification
  • MOC: Not established or implemented

Some other findings are:

• Some potentially catastrophic incidents are not investigated.
• Deficiencies identified in compliance audits were not addressed
Key Conclusions

- OSHA inspectors will expect compliance with recognized and generally accepted good engineering practices (RAGAGEP), industry recommended practices, and Center for Chemical Process Safety (CCPS) guideline books.

- Many of the safety-related problems that were uncovered in the pilot chemical NEP were also found during the refinery NEP. Points of weakness are similar between refineries and chemical plants.

- PSI for equipment is often incomplete.

- Facility siting is an omission.

- Equipment is often operated outside acceptable limits.

- Written procedures are often missing.

- PHA recommendations often are not resolved in a timely manner or at all.

- Process changes are made without MOC review.