Pipeline Safety Management Systems (SMS)

Leo Haynos, *Pipeline Safety Chief Engineer*

Kansas Corporation Commission

Underlying Principles

- It is the responsibility of the operator to understand and manage the risks associated with their pipelines.

- Our primary focus is improved SAFETY by setting minimum safety standards and verify the operators perform to these standards.

- We also promote and urge operator performance beyond mere compliance with the regulations.

- Focus is on performance leading to SAFETY.

We do this by…

- National minimum safety regulations.

- State specific regulations/requirements.

- Educating about safety/best practices.

- Encouraging research and implementation of new technologies.

Compliance-based Approach to Safety

- Reactive.

- Driven by rules.

- Catching people doing it wrong/enforcement.

- We do what we are told, what we have to.

- Operation is "managed" by safety staff/department.

- Perception is mainly negative.

- It is focused on conditions, not behavior.

When Things Go Wrong

How it is NOW . . .

You are highly trained

and

If you did as trained, you would not make mistakes

so

You weren't careful enough

so

You should be PUNISHED!

How it SHOULD BE. . .

You are human

and

Humans make mistakes

so

Let's *also* explore why the system allowed, or failed to accommodate, your mistake

and

Let's IMPROVE THE SYSTEM!

Measuring Safety…

- Change the way we measure safety from injuries, death, and violations to presence of safety in our culture.

PSMS Elements

1. Leadership and management commitment.

2. Stakeholder engagement.

3. Risk management.

4. Operational controls.

5. Incident investigation, evaluation and lessons learned.

6. Safety assurance.

7. Management review and continuous improvement.

8. Emergency preparedness and response.

9. Documentation and record keeping.

10. Safety culture.

Roadmap to a Strong Safety Culture

1. Demonstrate management commitment.

2. Promote open communication and reporting.

3. Promote "just" culture and trust.

4. Avoid normalization of deviance. – No Shortcuts

5. Promote a questioning attitude.

Minimum Requirement 192.751 Prevention of accidental ignition.

- Each operator shall take steps to minimize the danger of accidental ignition…where the presence of gas constitutes a hazard of fire or explosion, including the following:

- (a) When a hazardous amount of gas is being vented into open air, each potential source of ignition must be removed from the area and a fire extinguisher must be provided.

192.751 Prevention of accidental ignition.

- Each operator shall take steps to __minimize the danger__ of accidental ignition of …where the presence of gas constitutes a hazard …
  - Decide it's really not that dangerous because the wind is blowing?
  - Reduce the pressure?
  - Instruct workers to wear flash suits?
  - No smoking, all ignitions sources are at least 20 feet away?
  - Tell onlookers to stand back.

- OR>>>

- Shut off the gas flow before working.

192.751 Prevention of accidental ignition.

- Each operator shall take steps to minimize the danger of accidental ignition of …where the presence of gas constitutes a hazard
    - How do you determine the gas presence is hazardous?
    - How often do you check if the gas presence is hazardous?

- (a) When a hazardous amount of gas is being vented into open air, each potential source of ignition must be removed from the area and a fire extinguisher must be provided.

192.751 Prevention of accidental ignition.

- (a) When a hazardous amount of gas is being vented into open air, <u>each potential source of ignition</u> must be removed from the area and a fire extinguisher must be provided.
  - What's a potential source?
  - How far away to do you have to move it?
  - Does the fire extinguisher have to be manned?
  - Does the person on the fire extinguisher need to be trained in its use?

Low Pressure Cast Iron

Cast Iron Failure

Medium Pressure Steel

What is SMS?

- SMS is the formal business approach to managing safety risk, which includes:

  - Systematic approach.

  - Necessary management commitment.

  - Organizational structures, accountabilities, policies and procedures.

  - SMS incorporates continuous improvement.

Questions for the Panel

TEXT

785-633-6223

What are PHMSA's SMS Expectations?

Will SMS become a Federal Regulation?

- No, PHMSA does not intend to incorporate API RP 1173 by reference into the federal regulations.

- Why? May have unintended consequences, yet we could be one bad accident away from adding it.

What are PHMSA's Expectations for Pipeline Operators?

- Awareness and self-education.

- Taking the first step on the road to implementation.

- Leadership.

- Set reasonable expectations.

SMS is NOT…

- Something that will go away.

- Something that is merely spoken. It is something that is practiced.

- Something that can be successful without accountability and leadership at all levels.

- Something that you do after a problem is identified…it needs to happen long before.

1500 SW Arrowhead Road
Topeka, KS 66604