Safety Management System

2014 Pipeline Safety Conference

Massoud Tahamtani

NTSB Recommendations

API to facilitate the development of a safety management system specific to pipeline industry

SMS Development Team

- **Ron McClain, Kinder Morgan , Chair**
- **Mark Hereth, P-PIC, Content Editor**
- **Scott Collier, Buckeye Partners**
- **Tom Jensen , Explorer Pipeline**
- **Paul Eberth, Enbridge Pipelines**
- **Mark Weesner, Exxon Mobil**
- **Brianne Metzger-Doran, Spectra Energy**
- **Tracey Scott, Alliance Pipeline**
- **William Moody, Southwest Gas**
- **Nick Stavropoulos, Pacific Gas and Electric**
- **Steve Prue, Small Gas Distribution**
- **Bill Hoyle, Public – Subject Matter Expert**
- **Stacey Gerard, Public – Subject Matter Expert**
- **Jeff Wiese, PHMSA**
- **Linda Daugherty, PHMSA**
- **Edmund Baniak, API**
- **Robert Miller, AZ Corporation Commission**
- **Massoud Tahamtani, VA State Corporation Commission**
- **Bob Beaton, NTSB (Ex Officio)**
- **John Erickson, APGA**
- **Kate Miller, AGA**
- **Scott Currier, INGAA**
- **Peter Lidiak, API**
- **John Stoody, AOPL**

API RP 1173

Safety Management Systems (API RP 1173)

- Team has worked for over a year
- Draft RP well publicized
- Two public meetings
- The comment period on the RP just ended
- Over 80% positive votes
- Over 900 comments being addressed by the team

https://primis.phmsa.dot.gov/meetings

Safety Management System 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. Competence, Awareness, and Training
10. Documentation and Record Keeping

1. Leadership and Management Commitment

Promote an atmosphere of trust and learning for a positive safety culture!

- **Top Management**- Establish measureable goals and objectives; is accountable for continuous improvement; regularly reviews of safety performance and communications about safety; assess safety culture
- **Management**- Ensure effective process, procedures and training to meet objectives; assess, evaluate and adjust as needed to meet objectives; fosters continuous improvement
- **Employees**- Follow management's process and procedures to meet objectives; identify improvements; reveal risks
  - Stop work for safety of employees and public
  - Bring rigor of employee safety to pipeline asset protection

2. Stakeholder Engagement

- *Internal focus:*

  Ensure full employee engagement and learning

- *External focus:*

  Move from awareness to dialogue to help reduce risk and share safety performance

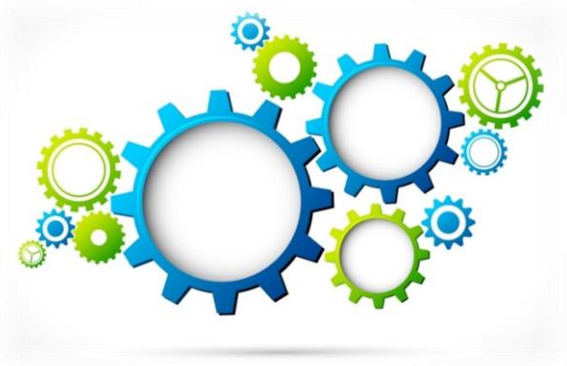
Identify and resolve concerns about transparency on safety matters both internally and externally!

3. Risk Management

- Build upon the fundamentals of risk management – *"Know your system and recognize potential threats"*
- Start with emphasis on data and data quality
- Identify risks – *"What Can Go Wrong?"*
- Take actions to mitigate risks
- Perform periodic analyses – at least once annually
- Report to Top Management on risk analysis, mitigation methods and effectiveness

4. Operational Controls

- **Operating Procedures** – Review annually for lessons learned
- **Safe Work Practices** – Address situations where "stop work" and procedural deviations are encouraged for safety
- **System Integrity**
- **Management of Change**
- **Use of Contractors**



Use of Contractors

- Incorporate work and findings
- Training on safety policies
- Evaluate contractor safety performance
- Communicate risks at the work sites
- Communicate the MOC procedure
- Communicate requirements of the SMS to contractors
- Define responsibility, authority and accountability for managing the outsourced activities

5. Incident Investigation, Evaluation and Lessons Learned

The pipeline operator shall maintain a detailed procedure for investigating incidents and near misses that led, **or could have led**, to a loss of life or serious injury.

Incident Investigation, Evaluation and Lessons Learned

- Identify the cause, contributing factors and lessons
- Evaluate the emergency response
- Develop recommendations for improvement
- Update risk assessment plan
- Communicate the investigation findings Internally and Externally
- Track corrective and preventative actions
- Learn from past events

6. Safety Assurance

The pipeline operator shall demonstrate the proper application of its SMS and progress toward **effective risk management and improved pipeline safety performance** through the following sub-elements:

- **Audit**
- **Evaluation**
- **Employee Reporting and Feedback**
- **Analysis of Data**
- **Performance Evaluation**
- **Evaluation of Safety Culture**
- **Evaluation of Maturity**

Safety Culture

"The collective set of attitudes, values, norms, and beliefs that the operator's employees and contractor personnel share with respect to risk and safety"

"It is the glue"

7. Management Review and Continuous Improvement

- Management review ensures the connection with Top Management
- Continuous improvement is an important theme
- Review performance at least annually by Top Management
- Shows how effective and the opportunities to continuously improve
- Evaluate and use technology for improvements

8. Emergency Preparedness & Response

Not Just Spill Response!

- Releases
- Weather events
- Security threats
- Fires
- Utility losses impacting operations
- Pandemics
- Civil disturbances
- Review O&M plans when new threats are identified as a results of an accident

What should plans/procedures include?

- Internal and external notification requirements
- Identification of response resources and interfaces
- Recognition and use of Unified Command/Incident Command Structure
- Safety, health, and environmental protection processes
- Communication plan
- Training and drills, including involvement of external agencies and organizations

What else must be considered?

- Lessons learned to improve the process
  - What worked and what didn't?
  - How do lessons from drills and actual response feed into plans and procedures?

- Periodic review and updating of the plan

We need to know who our partners in response are and communicate with them before an emergency.

9. Competence, Awareness and Training

- Assure competence at **every level** for all personnel
  - Employees
  - Contractors
  - Sub contractors
  - Management

- Communicate responsibilities and authority for each member
- Create confidence and *proactive* positive culture

10. Documentation and Record Keeping

- Data
  - Data and communication drive the PSMS
  - **High quality and current Data** is the basis for decision making and should be readily available across the entire organization

- Documentation
  - Provides the dual purpose of setting expectations and recording results
  - Includes Policy, Objectives, Methods, etc.

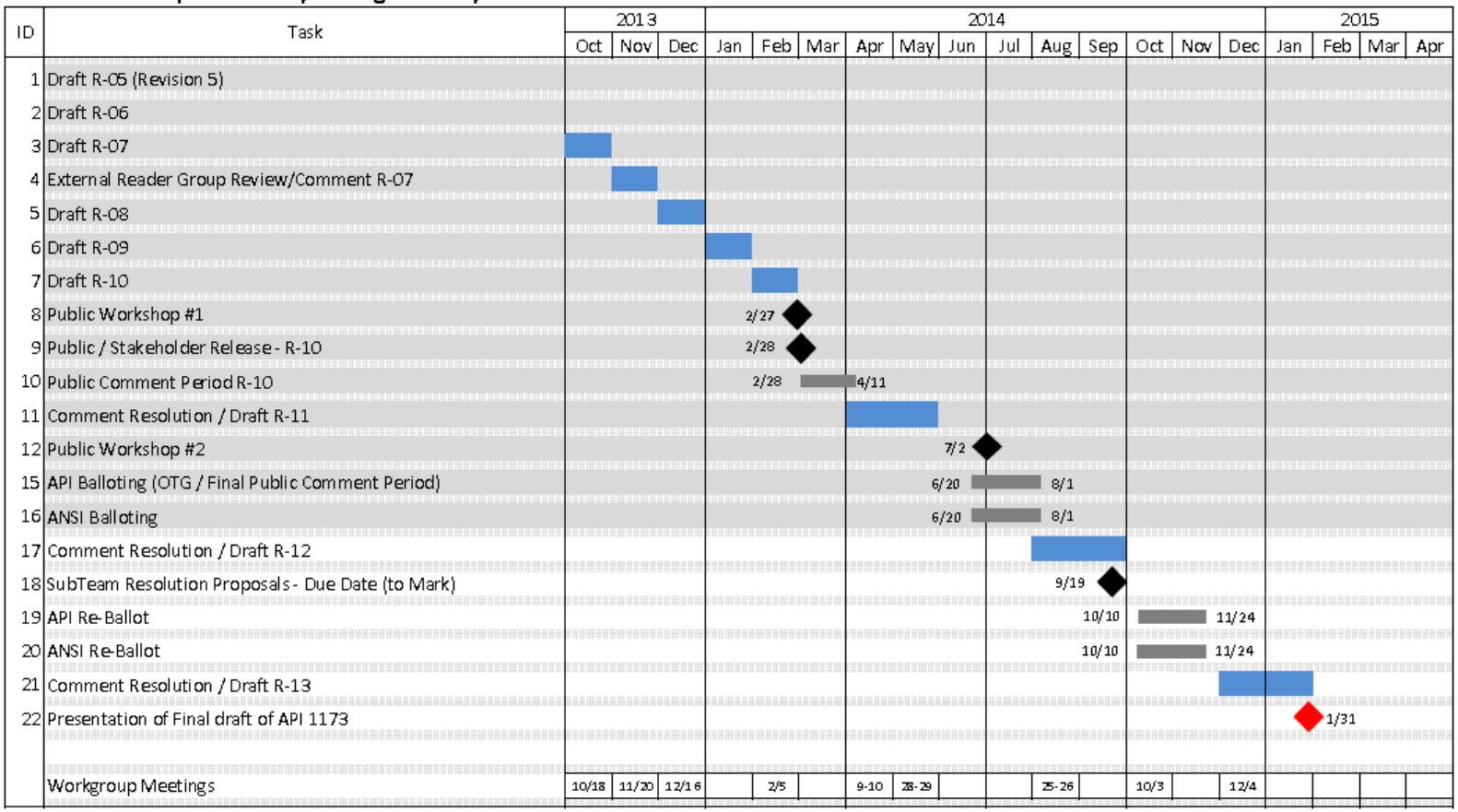
Safety Management Systems

- **SMS requires**:
  - Intentional and systematic actions
  - Diligence and oversight
  - Involvement at all levels - communication
- **The Rewards of a properly implemented SMS are**:
  - Enhanced pipeline safety
  - Increased process efficiencies
  - Increased system reliability
  - Reduced costs

API RP 1173 Timeline

Revision 7.0: August 26, 2014

API 1173 - Pipeline Safety Management System



SMS – Path Forward

Breakout Session Today!

Session A – SMS Path Forward

Peacock Ballroom - A


Safety First
STATE CORPORATION COMMISSION
VIRGINIA
SIC SEMPER TYRANNIS
1903
Division of Utility and Railroad Safety