



# Case Study: Pipeline Safety Management System Implementation

CPUC Office of the Safety Advocate  
En Banc on Safety Management Systems

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Safety | Integrity | Security



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Christopher Pioli is a consultant, who has worked with gas pipeline and utility company leadership on operational and management matters concerning system safety, asset integrity, regulatory compliance, program management, and cost recovery.

His work has taken him to Europe, Asia, South America, and to more than 75 gas system operators all across North America. Chris also served as a technical advisor to the Independent Review Panel on the San Bruno CA Pipeline Explosion.

Prior to Jacobs Consultancy, Chris worked for the Shaw Group, Stone & Webster, and the Colorado Springs Utilities. He earned a B.S. in Chemical Engineering at Illinois Institute of Technology and an MBA at Regis University.

## ASSET MANAGEMENT & OPERATIONAL EXCELLENCE

- ❑ Safety Management Systems
- ❑ Capital Program Development
- ❑ Rate Case Filings
- ❑ Program Governance
- ❑ Regulatory Compliance
- ❑ Life Cycle Analysis & Optimization
- ❑ System Integrity Management
- ❑ Risk Management
- ❑ Incident Investigation & RCA
- ❑ Quality Control & Assurance
- ❑ Information Management
- ❑ Data Analytics & KPIs

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## Case Study PSMS Implementation

- Study Background
- Takeaways
- Way Forward

“Beginning is easy; continuing, hard.”

Japanese proverbs

# API RP 1173 Pipeline Safety Management Systems – Gap Assessment

Mike Eutsey  
Director of Operations Services  
MDU PSMS Steering Committee  
Cascade Natural Gas Corporation

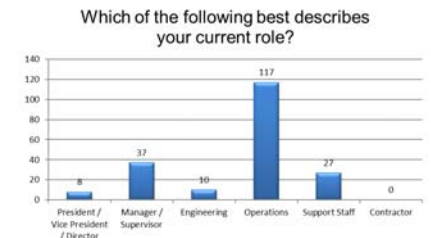
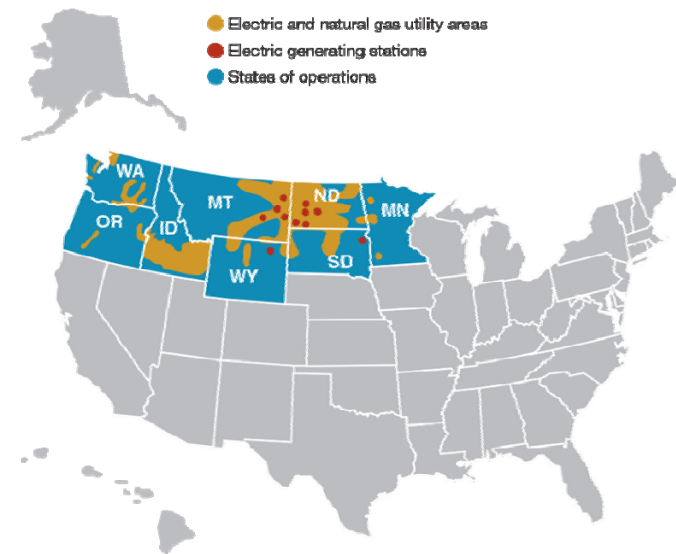
Christopher A. Pioli  
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Jacobs Project Manager  
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# Case Study Gap Assessment Covered...

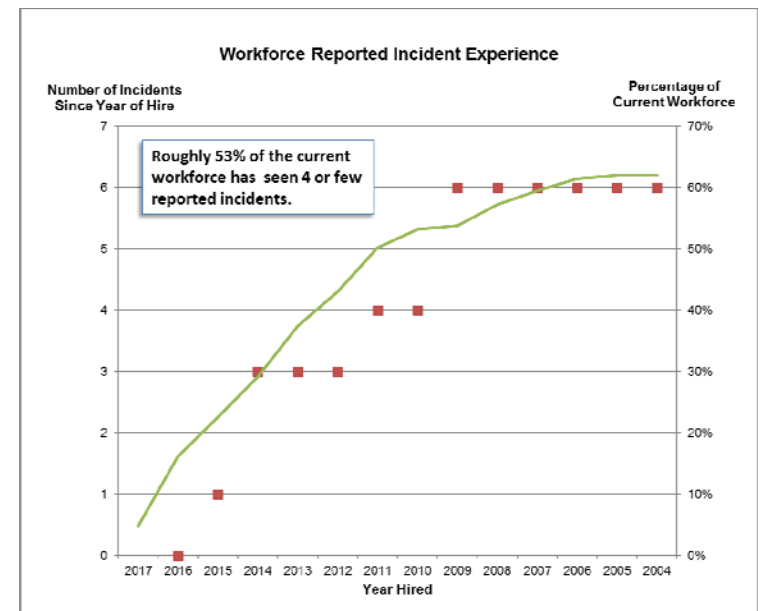
- Four utilities
- Eight states
- 180+ interviews
  - 3 General Offices
  - 9 Regional Offices
  - 30 Districts
  - 5 PSCs
- Field operations audit
- Assessment of the 11 PSMS elements
- Employee PSMS Survey



Staffing question in Crews Biggest Contractors Day to Day Operations  
 Lines Individuals Job Accountability Employees Heard  
 Company Understaffed Safety Unsafe Training  
 Organization Management Mapping System Districts Cover  
 Customers Bodies Difficult Not Taken Construction

# Case Study Takeaways

- Identified gaps in emergency preparedness and response
  - Limited employee experience
  - Transmission vs Distribution
  - Sharing of lessons learned
- Separation of Quality Assurance and Quality Control
- Operational Controls' Why and How
- Training
- Integration of Plan Do Check Act (PDCA)



# A strong commitment to personal and public safety can provide a strong foundation for PSMS

## Elements

- Leadership/Management Commitment
- Risk Management
- Competency/Awareness/Training
- Quality Assurance
- Continuous Improvement
- Management Review
- And repeat...

## Needs

- Communicate a shared PSMS Vision
- Broad view of Risk Management
- Train-the-Trainer expertise
- Expand to construction and O&M activities
- Greater understanding of PDCA
- Identify and apply performance measures

## Common themes across utilities

- Each Utility had a distinct culture
- Need for a shared PSMS vision and strategic direction
- Need for increased emphasis on prevention and mitigation rather than just remediation/repair
- Need for a reduction in divergent operational controls across districts, regions, and utilities
- Need for increased sharing of lessons learned from incidents and emergency scenarios
- Need for a more expansive view of who are utility stakeholders
- Need for common IT platforms for
  - Data/records collection and control
  - Collection, analysis, trending of data and KPI



“Periodic evaluation of risk management effectiveness and pipeline safety performance improvement, including audits, are essential to assure effective PSMS performance.” ...API RP 1173



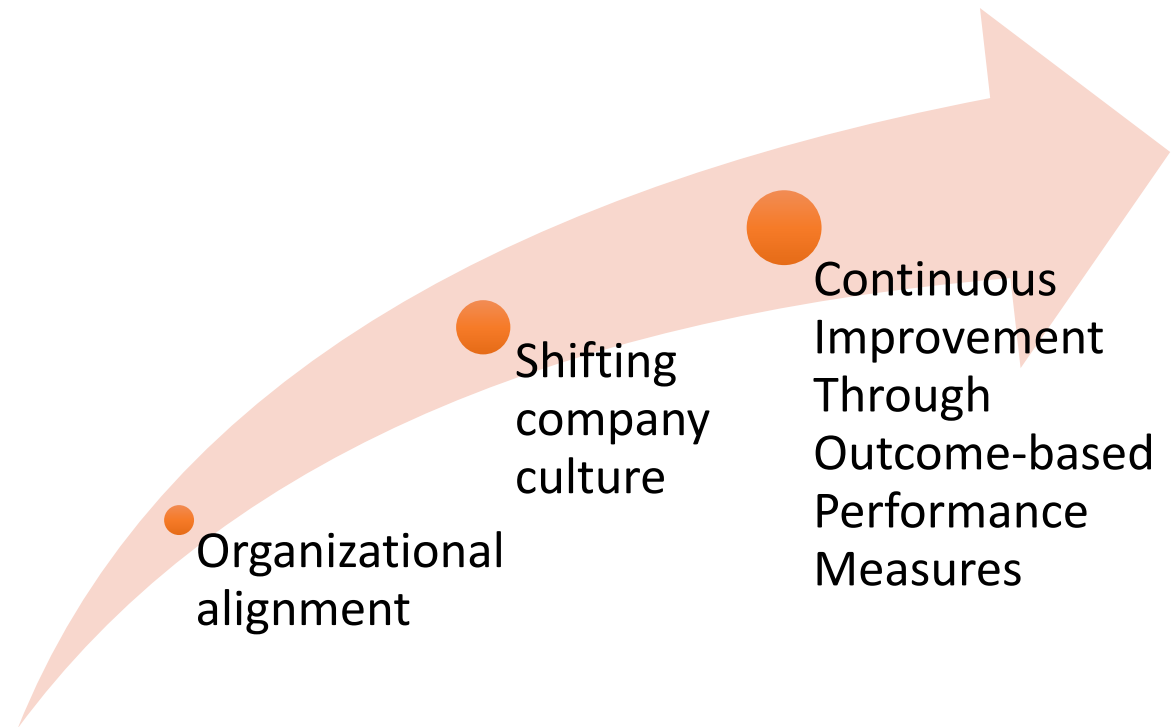
## Value of an Independent External Audit

- Mitigate conformation bias
- Overcome reluctance of staff and field personnel
- Ask questions of management that might not otherwise be asked

# Each Utility's Way Forward Will Differ

“Vision without action is a  
daydream. Action without  
vision is a nightmare.”

Japanese proverbs





Any questions?