

It's a Journey Not a Destination

Pipeline Safety Management Systems



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energy **API**
AMERICAN PETROLEUM INSTITUTE



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Topics to be Covered Today

- Background & Overview of **API RP 1173**
- Current PSMS **Regulatory Landscape**
- Understanding **Safety Culture**
- Focusing on **Key Elements**
- Starting the **Journey**



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How did API RP 1173 Come to Be?

- 2010 Marshal, MI incident = **complete breakdown of safety and considered an organizational accident**
- NTSB recommends **API for SMS workgroup**
- **API publishes API RP 1173** in July 2015



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Why PSMS?

“Safe and effective pipeline operation requires awareness and management of many linked activities, yielding complex processes.”

“Major accidents with high consequences rarely occur but when they do, the accident occurs because of an alignment of weaknesses or failures across multiple activities.”

“Managing the safety of a complex process....requires coordinated actions to address multiple dynamic activities and circumstances.”

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What is a Pipeline Safety Management System?

- A framework of safety related practices **that effectively manages risk**
- Management Tools that reveal and manage risk, promote learning & continuously improve pipeline safety and integrity



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Is API RP1173 a Requirement?

NO.

- PSMS's should be **voluntary**.
- U.S. Congress **can mandate** PSMS.
- Recent events have **increased attention** to PSMS.

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Elements of API RP 1173 (PSMS)

1. **Leadership and Management Commitment** (*Safety Culture*)
2. **Stakeholder Engagement** (*Public Awareness*)
3. **Risk Management** (*Integrity Management*)
4. **Operational Controls** (*O&M and Other Procedures*)
5. **Incident Investigation, Evaluation, Lessons Learned** (*Investigation of Failures*)



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Elements of API RP 1173 (PSMS)

6. **Safety Assurance**
7. **Management Review and Continuous Improvement** (*Plan, Do, Check, Act*)
8. **Emergency Preparedness and Response** (*Emergency Manual*)
9. **Competence, Awareness, and Training** (*Operator Qualification*)
10. **Documentation and Record Keeping** (*All aspects of operations*)



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PHMSA Expects Operators...

- To know their system's **risks and needs**
- To **demand excellence** from their contractors.
- ***Be 'aggressive' not 'passive and complacent'*** in making safety improvements. Don't wait for new regulations.
- To **prevent future accidents** PHMSA expects companies to focus on continuous improvement and nurturing a good safety culture.

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It's All About Safety Culture

The collective set of **attitudes, values, norms, beliefs** and **practices** operator's employees and contractor personnel share with respect to risk and safety.

*It is the **GLUE** that brings it all together.*



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It's All About Safety Culture

- All employees, must make safety related decisions INTENTIONALLY.
You have to want it - value it - make it happen.
- You can have a Positive Safety Culture without an effective Pipeline Safety Management System.
You can't have an effective Pipeline Safety Management System without a Positive Safety Culture.
- ENCOURAGE employees to speak up and exercise their “Stop Work” authority.
See Something. Say Something. Do Something.

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It's All About Safety Culture

1. Management must clearly communicate expectations, responsibilities and accountabilities and then **walk the talk**.
2. Organizations must foster open communication & promote an environment that encourages learning by asking **why & how**.
3. Employees must have the confidence that they can **stop work and identify problems** for management resolution.

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It's All About Safety Culture

4. Organization fosters systematic identification and consideration of threats. Proactively consider **What can go wrong?**
5. Encourages non-punitive reporting & assure timely response to issues.
See Something, Say Something, Do Something
6. Do not seek to place blame. **WHAT** failed? Rather than **WHO** failed?

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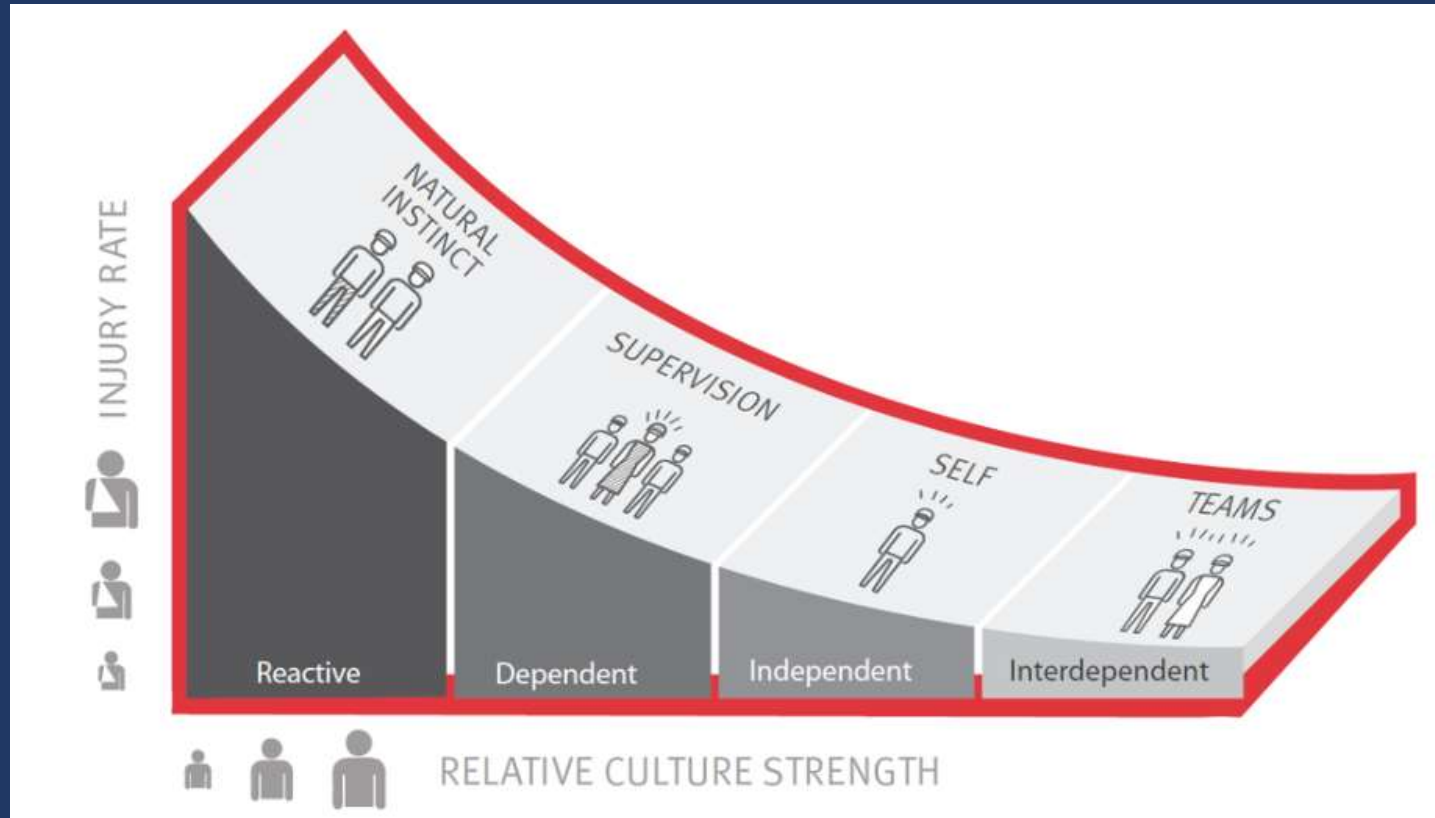
It's All About Safety Culture

7. **Reinforce positive behaviors** related to safety.
8. **Embrace lessons learned and commit to continuous improvement** by applying findings toward positive change.

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DuPont™ Bradley Curve™



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Other Key Elements - Risk Management

PSMS Emphasizes:

- Fundamentals of risk management – **Know your system and recognize potential threats.**
- Risk Identification - *What Can Go Wrong?*
- Risk Mitigation – *What are you doing about it?*
- Managing Risk through **data gathering, gap analysis and corrective actions**

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Other Key Elements - Continuous Improvement

- Continuous improvement *IS* the journey
- Plan, Do, Check, Act (PDCA) cycle is fundamental
- If you **can't measure** it, you **can't manage** it!

#BeBetter



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Other Key Elements - Continuous Improvement

1. **Identify** objectives and desired outcomes
2. **Determine** performance measures/metrics (KPIs)
how do you know how you are doing?
3. **Analyze** data/metrics
4. **Make** adjustments
5. **Repeat** (Plan, Do, Check, Act - PDCA)



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Next Steps to Take – The Journey

1. **Gain** Management/Leadership commitment and support
2. **Familiarize** Yourself with API RP 1173
3. **Perform** Safety Culture Assessments
4. **Complete** Gap Analysis



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Next Steps to Take – The Journey

- **Don't wait** for new regulations.
- **Be aggressive**, not passive or complacent
- **Be intentional.**
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Next Steps to Take – Resources

Free On-line Read Only Copy of API RP1173

http://publications.api.org/documents/1173_e1-PubAcc/html5.html

Pipeline SMS Industry Team Site

www.pipelinesms.org

American Public Gas Association - Survey

<https://www.apga.org/issues/operationsafety/apga-psms>

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Questions?

OQ – Moving Beyond the Basics

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Steve Allen

Executive Director of Pipeline Safety, EWN

ENERGY worldnet, Inc. (EWN)

Steve.Allen@energyworldnet.com

Cell: 317.523.7437

LinkedIn:

<https://www.linkedin.com/in/stephen-allen-ab323416/>