

# It's a Journey Not a Destination

## *Pipeline Safety Management Systems*



 **EWN**  
ENERGY WORLDNET

### Pipeline Safety Management Systems

ANSI/API RECOMMENDED PRACTICE 1 73  
FIRST EDITION, JULY 2015

 **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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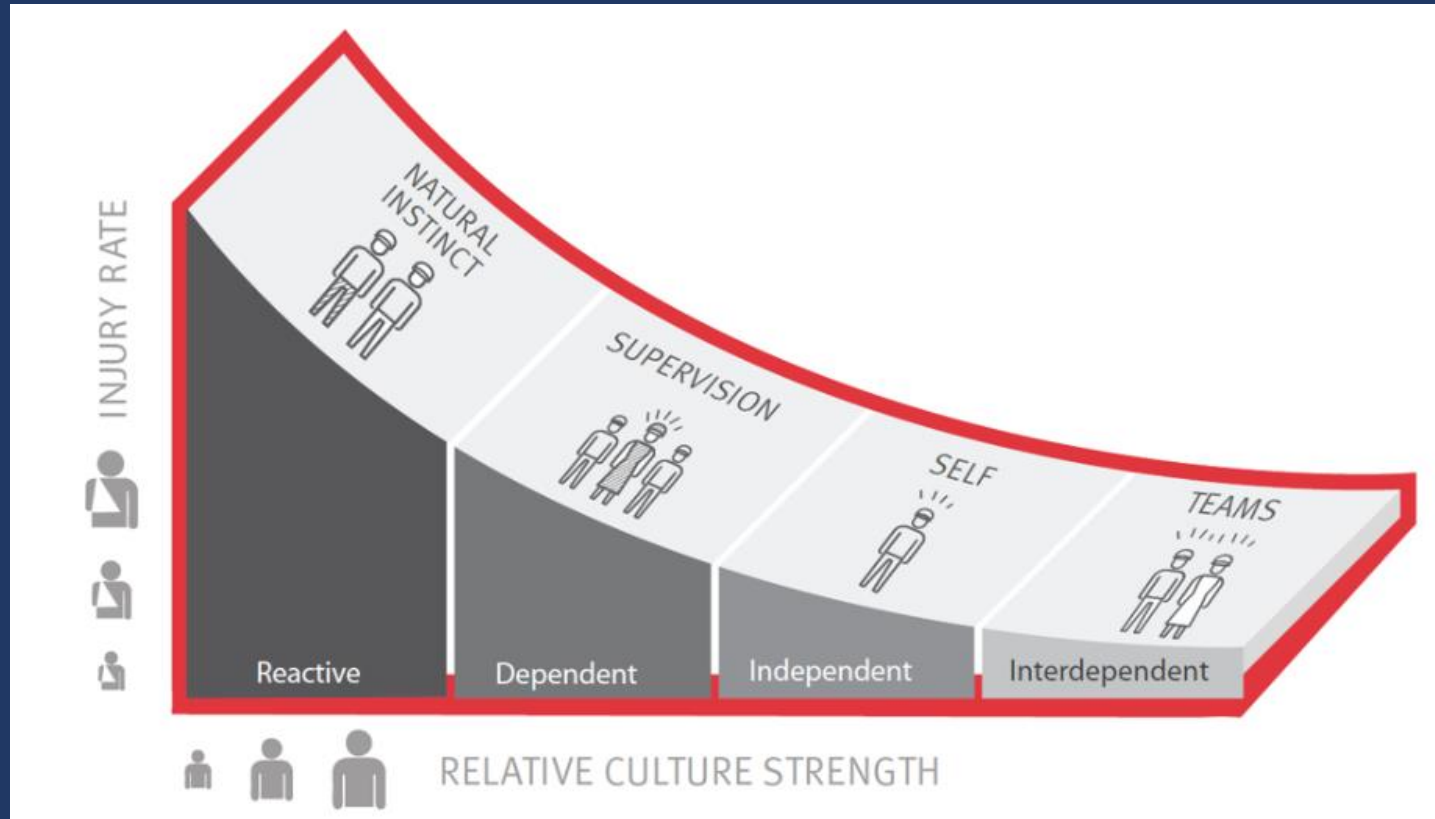
## It's All About Safety Culture

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**



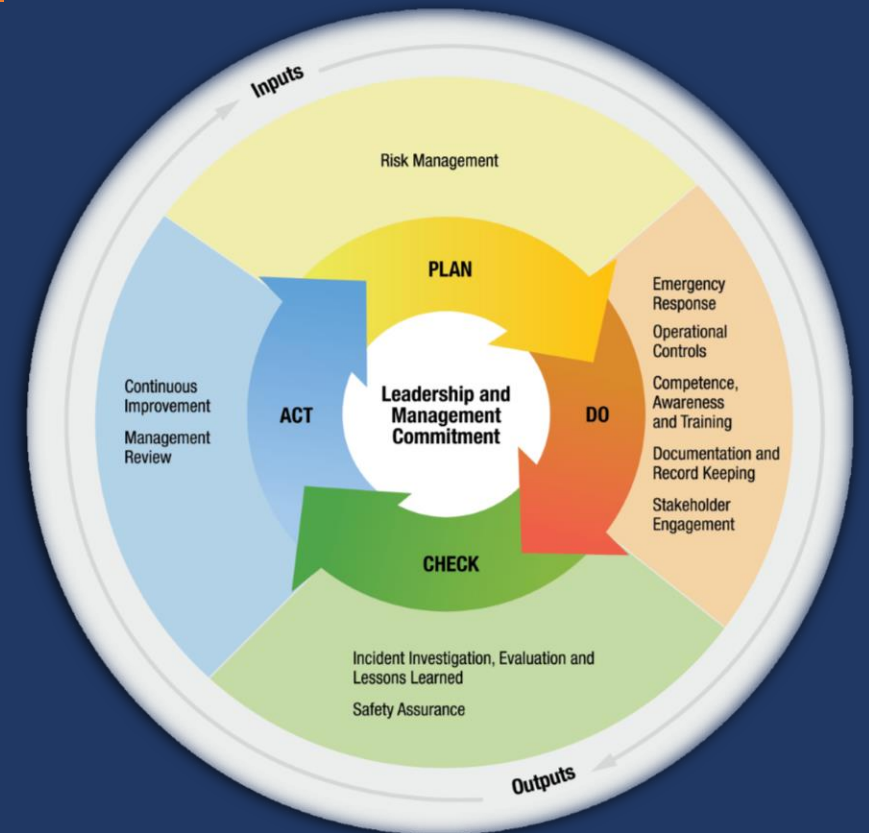
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### Other Key Elements - Continuous Improvement

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

**Pipeline SMS Industry Team Site**

[www.pipelinesms.org](http://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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