

API RP 1173 Pipeline Safety Management Systems (SMS)

&

Pipeline SMS Third-Party Assessment Program

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<https://www.api.org/products-and-services/pipeline-sms-assessment-program>



AGENDA:



Welcome & Introductions



Overview of API Pipeline SMS (RP 1173)



API PSMS Third-Party Assessment



**Examples: NOTABLE PRACTICES &
OPPORTUNITIES FOR INCREASED
EFFECTIVENESS**



Conclusion



Introductions



Pipeline SMS
Assessment Program

Pipeline SMS is a Journey, NOT a Destination.

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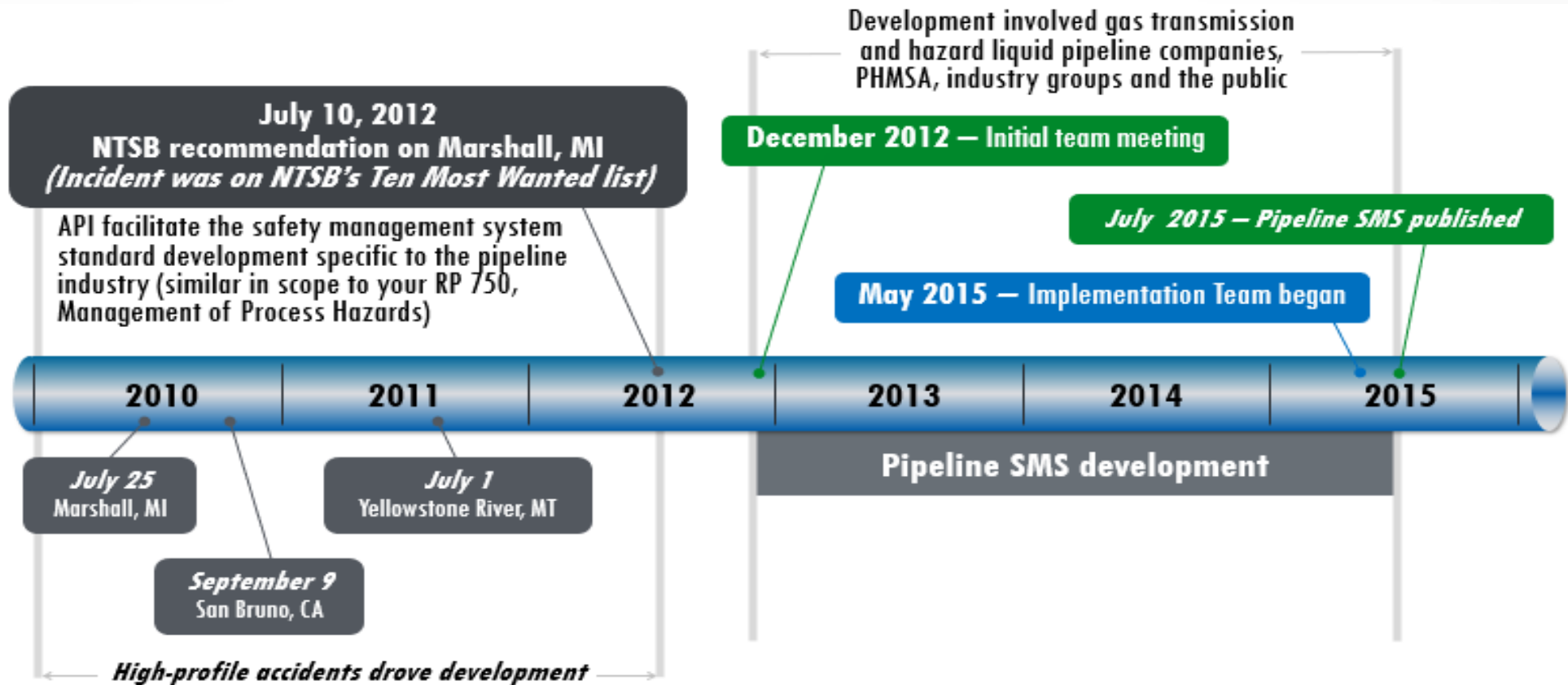
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Pipeline SMS Timeline

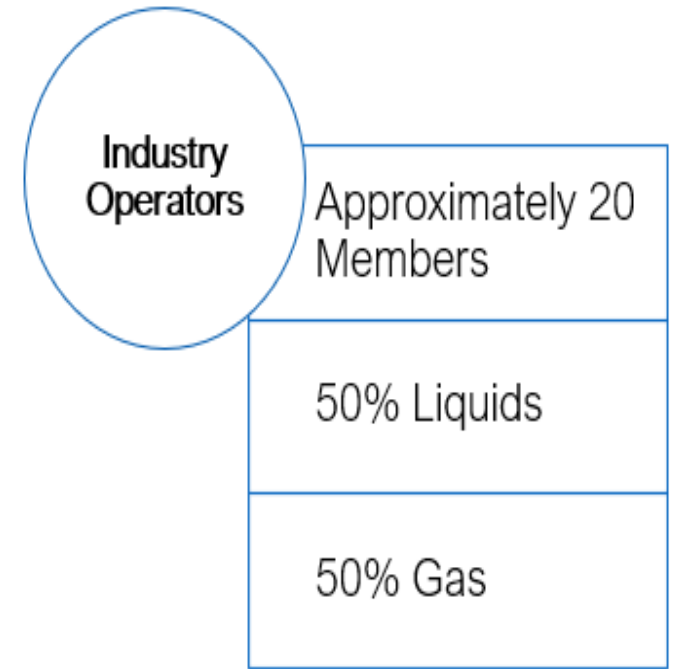


Pipeline SMS Implementation

API facilitates an industry-led committee focused on promoting pipeline safety:

Committee is comprised of all pipeline operators, not just API members. Other organizations involved include:

1. Association of Oil Pipelines (AOPL)
2. American Gas Association (AGA) – focused on gas distribution
3. Interstate Natural Gas Association of America (INGAA) – focused on interstate transmission
4. American Public Gas Association (APGA) – focused on local distribution of gas for home-use
5. Canadian Energy Pipeline Association (CEPA) – Canada's pipeline industry group
6. American Petroleum Institute (API)
7. Distribution Contractors Association
8. American Pipeline Contractors Association



Document
Record

Pipeline Safety Management System Elements



Leadership and
Management
Commitment



Management Review
and Continuous
Improvement



Emergency
Preparedness and
Response



Competence,
Awareness, and
Training



Incident Investigation,
Evaluation, and
Lessons Learned

A read-only version of API RP 1173 is available on www.PipelineSMS.org



Safety
Assurance



Stakeholder
Engagement



Risk
Management



Documentation and
Record Keeping



Operational
Controls

PSMS Third-Party Assessments The Key Industry Tool For Implementation

API RP 1173 is the foundation management system for all pipeline operations. Establishing a PSMS will enable an operator to implement other relevant RPs relevant to operating pipelines:

- RP 1160 (Managing System Integrity for Hazardous Liquid Pipelines)
- RP 1174 (Onshore Hazardous Liquid Pipelines Emergency Preparedness and Response)
- RP 1175 (Pipeline Leak Detection – Program Management)
- RP 1177 (Quality Management System for Steel Pipeline Construction)
- RP 1130 (Computational Pipeline Monitoring for Liquid Pipelines)
- RP 1162 (Public Awareness Program for Pipeline Operators)
- RP 1161 (Pipeline Operator Qualification)
- Std 1163 (In-Line Inspection Systems Qualification)
- Bull 1178 (Integrity Data Management and Integration)
- RP 1109 (Marking Liquid Petroleum Pipeline Facilities)

2020 - PSMS Assessments

COVID-19 Outbreak - Adjusted The
Assessment Program(s)



Pipeline SMS
Assessment Program

SMS PROVES ITSELF DURING COVID-19



Pipeline Operator Actions Reflect RP 1173 Elements

A pipeline safety management system (SMS) provides a structured framework for knowing and continually improving safety performance. The foundational elements of a pipeline SMS, reflected in API RP 1173, are proving themselves during COVID-19 as they reflect key actions pipeline operators are taking to continue operating and do so safely.



Leadership & Management Commitment

Leaders of pipeline operators are demonstrating their commitment to action by activating incident command structures, serving on crisis management teams, and providing frequent communication to employees to ensure their safety and support business continuity.



Stakeholder Engagement

Pipeline operators are communicating with their customers and the public on their commitment to continued safe delivery of energy. Operators are proactively reaching out to their federal and state regulators, providing daily communication with employees, and are in regular contact with vendors and emergency response contractors.



Operational Controls

Pipeline operators have developed COVID-related procedures to ensure that personnel, including vital control room workers, have the planning, support resources and technology they need to perform their roles and to minimize exposure to the virus. Examples include utilizing backup control locations, alternating between locations and deep cleaning during alternate shifts. Using Management of Change processes and procedures has continued to ensure safe operations during these times of rapid change.



Incident Investigation, Evaluation & Lessons Learned

Pipeline operators are regularly joining together as an industry to share their experiences and provide lessons learned to their peers. Sharing examples include strategies to split shift and sequester vital personnel, obtain personal protective equipment for their employees, and safely begin the return to workplace.



Documentation & Recordkeeping

Pipeline operators are documenting the actions they are taking to continue operating and doing so safely while in some cases deviating from normal procedures. Employees have the ability to access information and databases while working remotely.



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EXPERTS

THE ASSESSORS PROVIDE A SUMMARY OF ASSESSMENT ACTIVITIES, PIPELINE SMS STATUS, RESULTS BY EACH RP 1173 ELEMENT, OPPORTUNITIES FOR IMPROVEMENT, AND BENCHMARKING DATA.



PROCESS

PIPELINE SMS ASSESSMENT PROGRAM ESTABLISHES AN EFFECTIVE AND EFFICIENT PROCESS.

PIPELINE SMS ASSESSMENTS DEMONSTRATE A COMMITMENT TO A CULTURE OF SAFETY AND CONTINUOUS IMPROVEMENT WITHIN EACH INDIVIDUAL COMPANY AND ACROSS THE PIPELINE INDUSTRY.

API PSMS Third-Party Assessments: *Breaking Through Barriers - 2020*

- Understanding The Requirements Of Each Element
- Gap Assessment – Maturity Of The PSMS
- Cost And Resources
- Communicating Expectations To Service Providers
- Operational Controls
- Documentation & Record Keeping
- Risk Management
- Stakeholder Engagement
- Management Review & Continuous Improvement

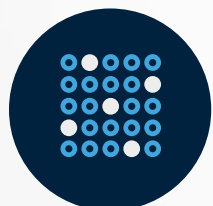
Pipeline SMS Third-Party Assessment Program



Data driven to assist operators and industry assess PSMS effectiveness

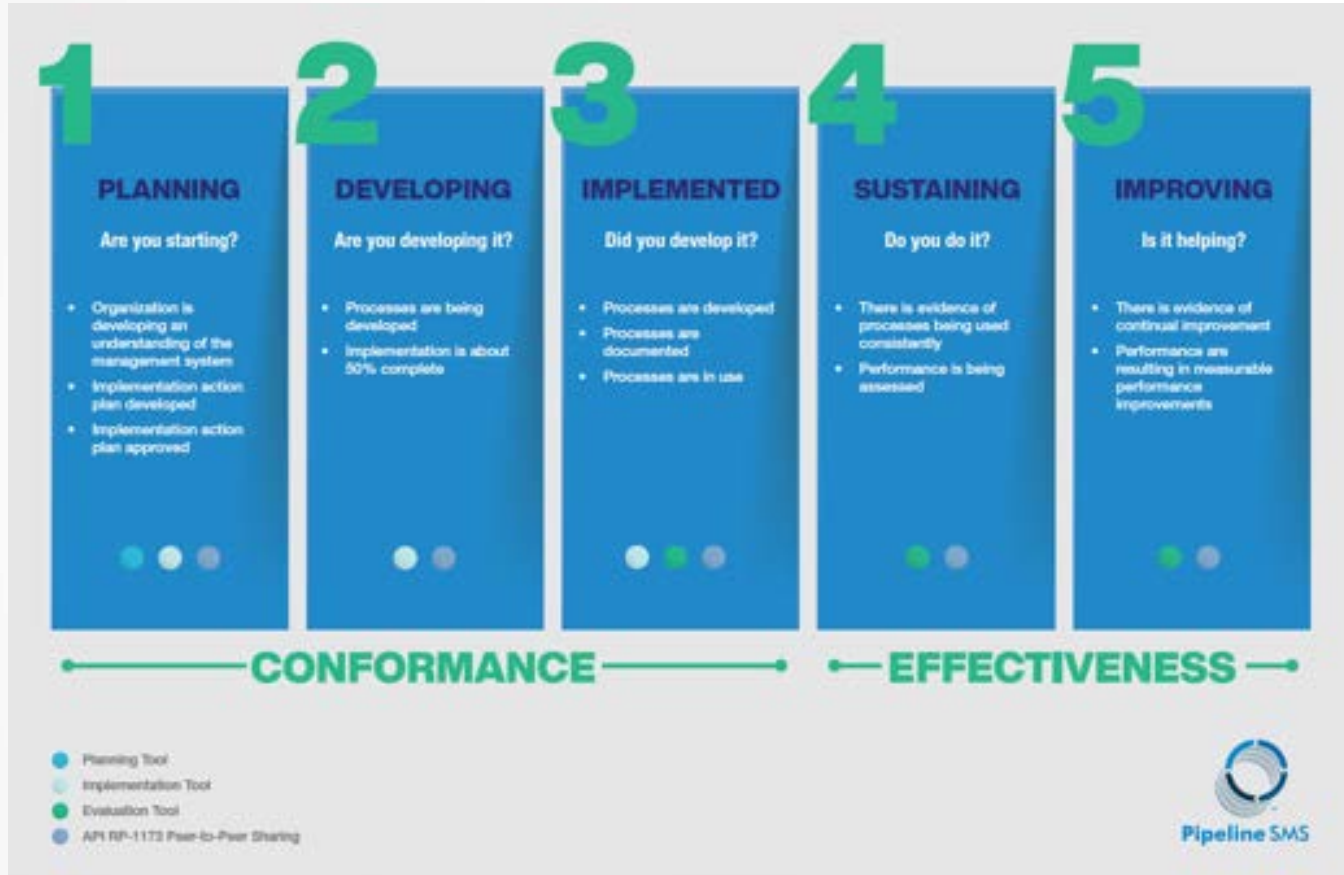


Interaction with operators, including face-to-face discussion and interviews with element owners



Assesses conformance to RP 1173 and effectiveness of PSMS

Pipeline SMS Maturity Model



The PSMS Maturity Model has 5 levels:

- Levels 1-3 indicate the degree to which the operator's **PSMS conforms** to the requirements of RP 1173;
 - ✓ *To achieve Level 3, a process should be fully developed and implemented within the organization, but it does not need to have been through a PDCA cycle;*
- Levels 4 and 5 indicate the degree to which it has been **effectively implemented** and is resulting in measurable performance improvement;

Pipeline SMS is a Journey, NOT a Destination.

PSMS Assessment is INTENDED to:

Assist

Assist operators in evaluating the conformance, effectiveness, and maturity of existing PSMS.

Identify

Identify opportunities for increased effectiveness in PSMS implementation and pipeline safety performance industry wide.

Promote

Promote learning from sharing experiences and industry practices.

Provide

Provide opportunities for **benchmarking** with the consistent use of industry-developed protocols and tools.

Feedback

Serve as a feedback mechanism for an analysis of industry performance to help identify trends and patterns.

Encourage

Encourage safety collaboration among participating sites and industry experts.

Consistent

Provide operators with a standardized and consistent, third-party approach to address the auditing requirements of API RP 1173, Section 10.2.2 and Section 10.2.5

Benchmarking

- One of the key benefits of this assessment program is allowing operators to benchmark themselves and their business units against themselves and their peers
- Operators receive blinded benchmarking data following their participation in an assessment for five years

Benchmarking Is Important For Business And Industry

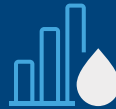
1. Increase safety, effectiveness, and efficiency
2. Set clear business and industry goals
3. Provide new opportunity for discovery
4. Increase business performance and safety
5. Motivate employees
6. Better understand the competition
7. Improve quality of product

Assessment Deliverables



Report

Overview of assessment activities, PSMS status, results by RP 1173 element, opportunities for improvement, and benchmarking data



Benchmarking

One of most valuable offerings; provides maturity evaluation level summaries, blindly included in database to compare performance across the industry and identify areas for improvement



Support

API team of industry experts can provide support and resources about observations or good practices; share information from broader industry

What Makes The Assessment A Success

- Begin Four To Six Months In Advance
- Hybrid Model (Virtual/In-person)
- Be Aware Of All The Other Scheduled Assessments
- Engage Subject Matter Experts Early In The Assessment Process
- Utilize Industry Peer Resources (Pipelinesms.Org)
- The pre-assessment work allows an understanding of the Operator's expectations and processes
- Discussion between the Operator's Leadership and Assessment Team as to their PSMS program, company organization and covered assets
- Having the right personnel in the room during interviews
- Willingness to work as partners with the goal of improved pipeline safety

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NOTABLE PRACTICES & OPPORTUNITIES FOR INCREASED EFFECTIVENESS

Besides identifying where there are RP 1173 conformance issues, PSMS assessments frequently highlight the following:

- **Notable Practices** – Practices, programs or initiatives that are notably better than expected. These practices may be highlighted as models for other parts of the organization. These practices are also viewed as industry good-practices, some of which may be further considered as best-practices and can be shared anonymously with other operators who participate in the program.
- **Opportunities for Increased Effectiveness** – Areas of the pipeline SMS where an opportunity exists to go beyond conformance and improve effectiveness or efficiency in the management system.

Notable Practice –Example

Stakeholder Engagement – Internal Stakeholder Communication:

- ✓ With commitment and buy-in from Sr. Leadership, Operator is:
 - Sharing a weekly 2-minute video message with all employees on recent safety related occurrences, near misses or other important topics; frequently prepared by employees
 - Distributing messages thru email so accessible to all employees
 - Promoting two way sharing of information within organization

OPPORTUNITIES FOR INCREASED EFFECTIVENESS - EXAMPLE

Operational Controls:

- The Operator had a thorough process for issuing new procedures, revisions to existing procedures and procedure deviations. Suggested the following:
 - Make clearer who was to review procedures/changes/deviations prior to approval
 - Elevate the management approval level for new procedures and changes to existing procedures that may have a significant impact on the company



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Benefits of an API Third Party Assessment?



- **International standards setting organization** for the natural gas and oil industry that convenes industry leaders and subject matter experts to continually improve safety, efficiency, sustainability, and environmental protection of the industry.
- Trusted international leader in setting standards and source of guidance for ***safety, environmental protection, and sustainability***, we are best positioned to assess your site for safety concerns
- Experienced, proven, standardized and consistent assessment process
- Real-Time Benchmarking
- Consistent with industry Pipeline SMS tools and maturity

“Using system think fueled with information from proactive safety information programs improves not only safety, but also productivity.”



Chris Hart
U.S. National Transportation
Safety Board





Pipeline SMS Assessment Program

- **Fulfills RP 1173 Section 10 requirements for audits, assessments, and evaluations**
- **Opportunities to share information**
- **Data for Operator and industry benchmarking**
- **Modeled after API's successful Downstream Process Safety Site Assessment Program (PSSAP®)**

Operator Size	API Member	Non-API Member	International
<u>Small Operator:</u> <1.5 million work-hours	\$55,000	\$65,000	+\$10,000
<u>Medium Operator:</u> >1.5 million <5 million work-hours	\$75,000	\$90,000	+\$15,000
<u>Large Operator:</u> >5 million work-hours	\$95,000	\$110,000	+\$20,000

Pricing Per Element:

Operator Size	Domestic	International
<u>Small Operator:</u> <1.5 million work-hours	\$13,000	\$18,000
<u>Medium Operator:</u> >1.5 million <5 million work-hours	\$18,000	\$23,000
<u>Large Operator:</u> >5 million work-hours	\$23,000	\$28,000



Conclusion

- API is committed to helping pipeline operators join the effort to implement Pipeline SMS (RP 1173)
- To compliment the RP 1173 standard, API has created the Pipeline SMS Third-Party Assessment Program.
- The program is designed to help pipeline operators across all segments, from small gas distribution operators to large interstate liquids operators, achieve conformance and judge the effectiveness of implementation of API RP 1173.
- API welcomes those interested in participating in the update of RP-1173 to reach out to us to get more involved.



Thank you!

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<https://www.api.org/products-and-services/pipeline-sms-assessment-program>

