

NARUC 2018 WINTER POLICY SUMMIT

PIPELINE SAFETY MANAGEMENT SYSTEM (SMS) OVERVIEW

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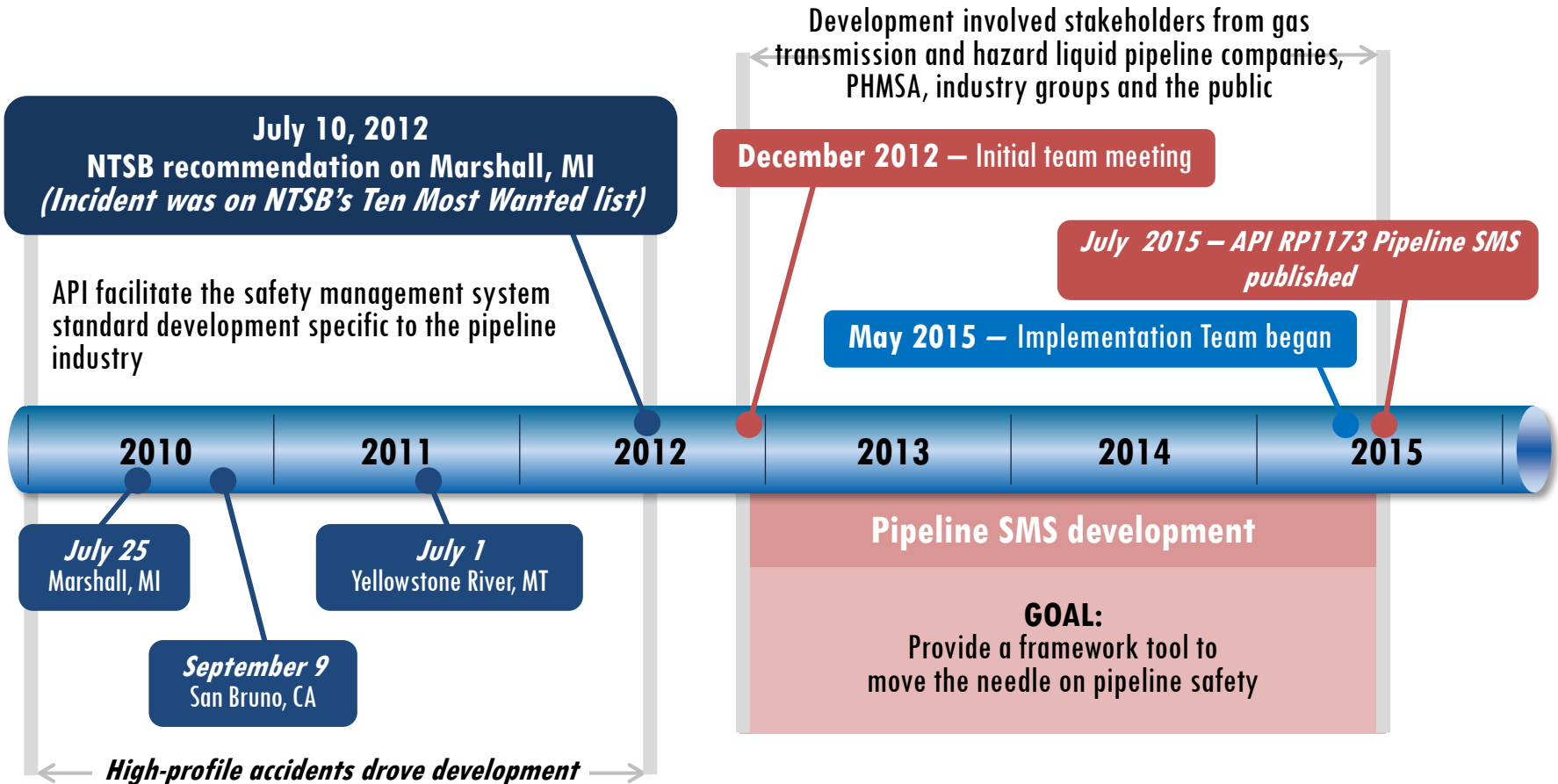
VICE PRESIDENT OPERATIONS, MARATHON PIPE LINE LLC (MPL)



TODAY'S OBJECTIVE

- Introduction to Pipeline Safety Management Systems
- Promote Awareness and Convey Importance of Industry Adoption
- Provide Background and Context
- Describe Industry Efforts

PIPELINE SMS BACKGROUND



WHY PIPELINE SMS?

“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.”

WHY PIPELINE SMS?

“While safety efforts may be applied individually to each activity, more effective safety performance is achieved when viewing the linked activities as processes that are better dealt with holistically.”

WHAT IS A PIPELINE SAFETY MANAGEMENT SYSTEM (SMS)?

- API RP 1173 provides pipeline operators with a set of safety management system tools that when applied provide a framework to:
 - Reveal and manage risk,
 - Promote a learning environment, and
 - Continuously improve pipeline safety and integrity.

IMPROVING PERFORMANCE (MORE THAN JUST SAFETY)

PIPELINE SAFETY MANAGEMENT SYSTEM – API RP 1173

10 ELEMENTS

Holistic Integrated Framework

SYSTEM

Flexible & scalable

CONTINUOUS IMPROVEMENT

Plan-Do-Check-Act

SAFETY CULTURE

The glue



WHAT PIPELINE SMS IS NOT

- A regulatory requirement — it is NOT incorporated by reference into pipeline safety regulations
- A one size fits all approach
- A one-and-done or check-the-box type of activity
- A quick fix approach to pipeline safety



IN SUMMARY

SMS Requires

- Management Support
- Involvement at all levels in organization - Culture
- A holistic approach
- Intentionality and diligence
- Continuous improvement is a key component

SMS Benefits

- Enhanced pipeline safety
- Increased process efficiencies & effectiveness
- Increased system reliability
- Reduced costs

A photograph of an industrial facility, likely a water treatment plant, featuring large white pipes and valves. The pipes are supported by concrete pillars and have multiple flanges with bolts. In the background, there are metal walkways and railings. The ground is covered with gravel. The sky is clear and blue. A semi-transparent blue banner is overlaid across the middle of the image, containing the text "IMPLEMENTATION TEAM & EFFORTS" in white, bold, sans-serif capital letters.

IMPLEMENTATION TEAM & EFFORTS

INDUSTRY IMPLEMENTATION TEAM

ONE INDUSTRY, ONE TEAM

- May 2015: Implementation started
- July 2015: API RP 1173 published
- 28 members — operators and associations
 - API
 - AOPL
 - INGAA
 - AGA
 - APGA (American Public Gas Association)
 - CEPA (Canadian Energy Pipeline Association)
- Actively meeting several times per year
- Focus
 - Strategic
 - Tactical
 - Helping the industry with the *how*
 - Measuring progress

INDUSTRY IMPLEMENTATION TEAM

GUIDING PRINCIPLES

Implementation team's governance for goals & objectives

- 1 It's a journey, not a destination
- 2 Flexible and scalable
- 3 Stay true to RP 1173 (especially terminology)
- 4 Designed for the pipeline industry
- 5 Improving overall performance, not just safety
- 6 Divided into conformance and effectiveness
- 7 Voluntary versus regulatory
- 8 Proactive — look for weak signals



AGENCY FEEDBACK

NTSB

Closes out their recommendation as
Closed--Exceeds Recommended Action

Senior staff commended the
“tremendous” job of industry developing
API RP 1173 on PSMS and the “phenomenal”
efforts to implement the RP quickly

Extremely impressed with the industry’s
aggressive implementation efforts and
embracing of the SMS

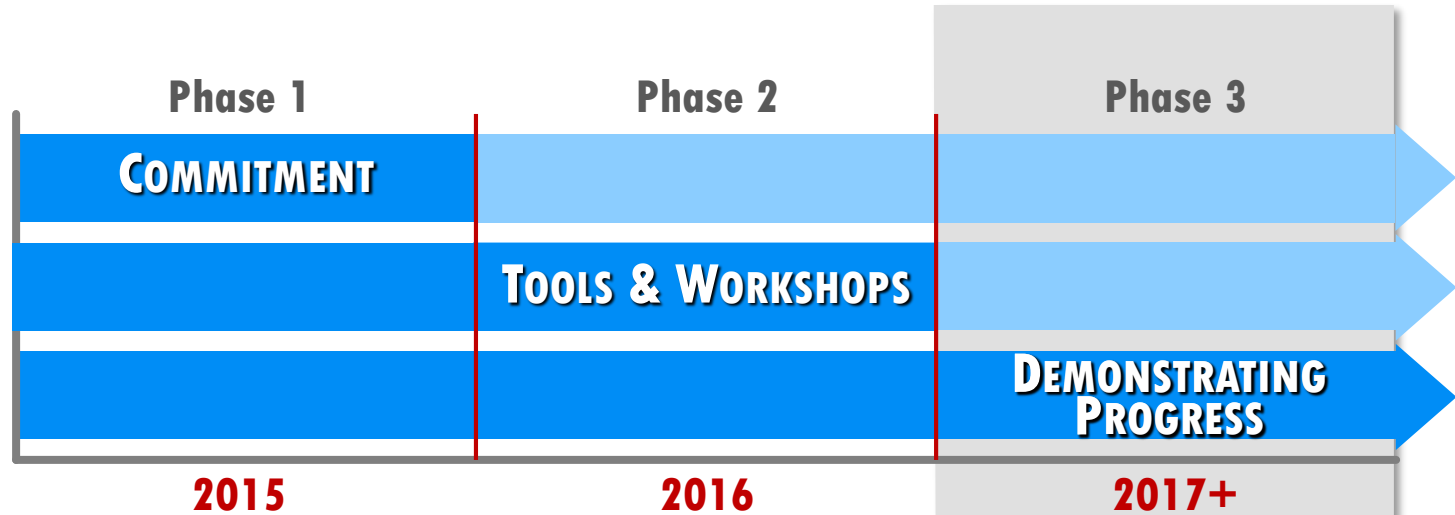
PHMSA

Pleased with the collaborative nature
of implementation across the entire
oil and gas industry

Clear from the specific examples provided
by liquid pipeline executives on how SMS
is already impacting culture, that SMS is
making a difference and is ***clearly a
transformative initiative*** that will
impact pipeline safety performance



INDUSTRY PROGRESS



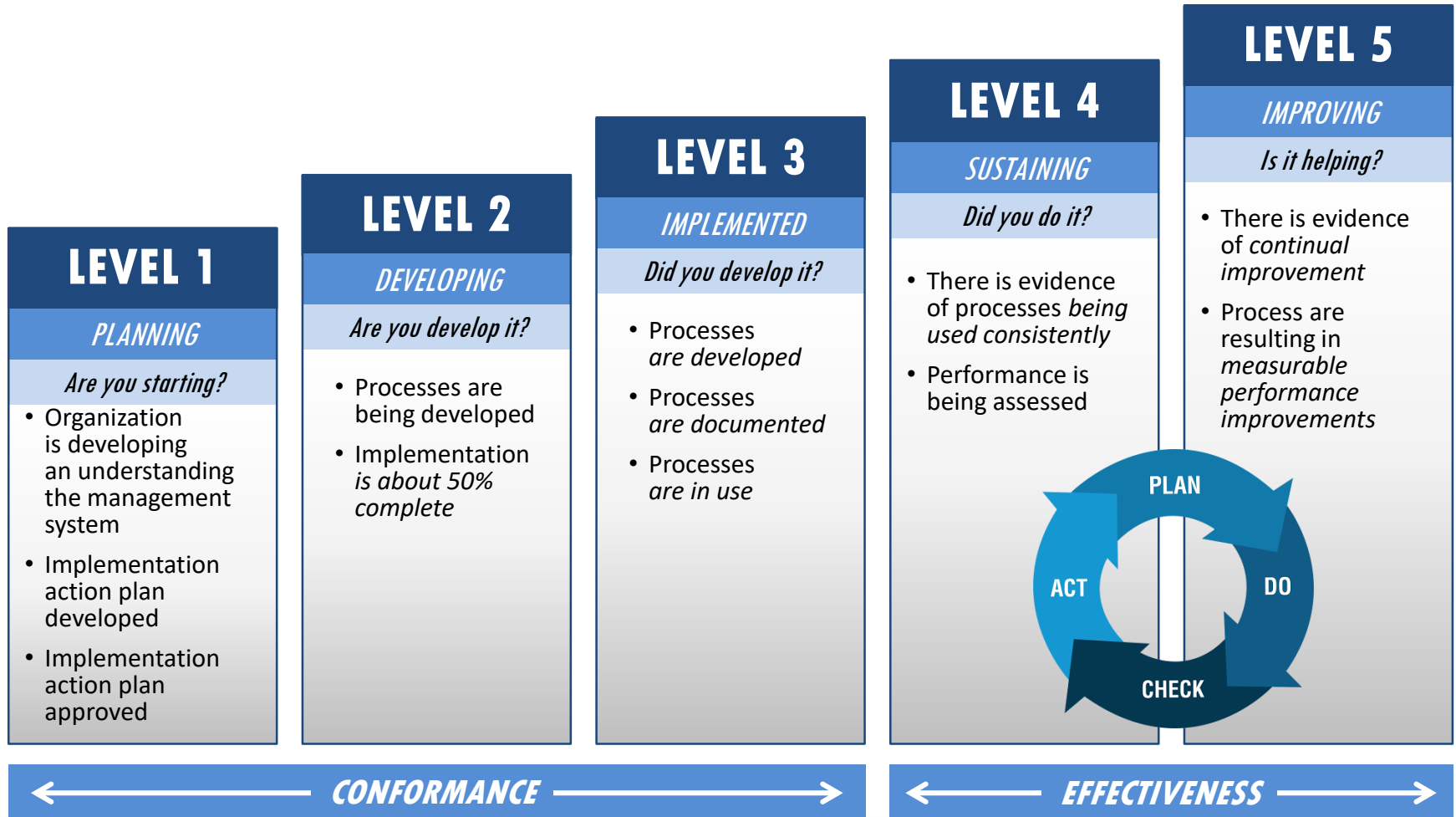
- Aggregate industry progress
- Conformance, then effectiveness
- Industry Maturity Model

INDUSTRY HELPING INDUSTRY IMPLEMENT

- Commitment
- Booklets
- Tools
 - Planning (gap analysis) — *complete*
 - Implementation (summary) — *1Q18*
 - Conformance (shalls) — *1Q18*
 - Effectiveness (is it helping) — *1Q18*
- Workshops
- Mentoring
- One Maturity Model
- *Website: www.pipelinesms.org*
- Webinars



PIPELINE SMS MATURITY MODEL



WHERE DO I START?

Pipeline SMS Tool Roadmap

START

GETTING STARTED

- Understand RP 1173
- Obtain management buy in
- Commit to RP 1173 implementation
 - Liquid operators see www.pipelinesms.org
 - Gas operators see
 - AGA members: [Commitment to Enhancing Safety](#)
 - INGAA members: [Commitment to Pipeline Safety](#)

PLANNING TOOL

- Summary of API RP 1173 requirements (71 questions)
- A gap analysis tool to compare an operator's existing system to the requirements of API RP 1173
- Documents action plans and responsibilities to close gaps
- Helps operators achieve Level 1 maturity (develop a plan, and begin work)

IMPLEMENTATION TOOL

- Summary of API RP 1173 requirements (71 questions)
- Evaluates and summarizes the operator's implementation status by question, element and overall
- Helps operators track development of programs to implement the RP

CONFORMANCE TOOL

- Comprehensive API RP 1173 requirements (all 234 *shall* statements from the RP)
- Evaluates and summarizes the Operator's conformance to API RP 1173 by *shall* statement, element and overall
- Helps operators ensure conformance with all *shall* statements in the RP
- Tool spans Levels 2-4 as conformance requires processes are in place and effective

VOLUNTARY API THIRD-PARTY AUDIT PROGRAM

- API-administered audit program for conformance to API RP 1173
- Yields an objective evaluation and score
- Appropriate at Level 3 maturity or beyond as effectiveness will be considered

EFFECTIVENESS TOOL

- Helps operators evaluate the effectiveness of their programs in achieving the objectives of the RP (Is it helping?)
- Appropriate at Level 3 maturity or beyond as Effectiveness can be measured once the Pipeline SMS is in place



PEER-TO-PEER SHARING CAN BE CONDUCTED AT ANYTIME



For more information on Pipeline SMS tools or questions regarding Pipeline SMS, please see www.pipelinesms.org or contact API at PipelineSMS@api.org

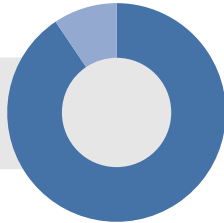


BENCHMARKING

2016 PHMSA LPAC/GPAC SURVEY DATA (LIQUIDS AND GAS)

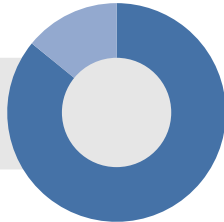
2017 SURVEY UNDERWAY

91% Yes



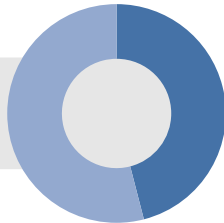
Has your company committed to implementation of RP 1173?

86% Yes



Has your company completed a gap analysis comparing your existing processes and procedures to the requirements of the RP?

47% Yes



Has your company prioritized gaps and developed a plan to begin closing them?

PATH FORWARD

ONE INDUSTRY, ONE TEAM

- Continue *One Industry, One Team*
- 2018 Webinar series
 - January 25: Maturity Model
 - February 27: Tools
- 2018 Workshop
 - June 21: Tools how-to workshop
- API voluntary third-party audit program (pilot 2018)
- Develop metrics
 - Conformance for implementation
 - Effectiveness through meaningful metrics



QUESTIONS AND ANSWERS

**It's a journey,
not a destination**

