API-AOPL Pipeline SMS Industry Team

Pipeline SMS Group Tools Webinar

June 26, 2018

SPEAKERS

- Bill Byrd: RCP Inc.

- Sam Minifie: American Petroleum Institute (API)

- Tony Cockshutt: Enbridge Inc

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AGENDA

- Greeting and API Antitrust statement
- Preface
- Evaluation Tool
  - Purpose
  - Development timeline
  - Tool element protocol-overview and demonstration
  - Effectiveness evaluation-PSMS KPIs
  - Next steps
- Status of API Voluntary 3rd Party Audit Program
- Group discussion

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EVALUATION TOOL UPDATE

One tool for evaluating effectiveness of elements and performance

- o 2 parts: Element protocol + Effectiveness Evaluation
- o Element protocol: 50 High-Level Questions by element addressing RP requirements- testing complete
- o Effectiveness Evaluation: Evaluation of KPI performance – still draft

Stayed true to original objectives… The tools are designed to:

- ✓ Be simple to use and understand – comments from testers seem to validate
- ✓ Work for small, medium and large operators – variety of operators volunteered to test
- ✓ Work for self-assessment and 3rd party audit – Same tool used differently
- ✓ Fit with planning and implementation tools – all built specifically on RP 1173
- ✓ Be able to show improvement in safety performance – KPIs for all of industry, can be rolled up to show industry performance.

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EVALUATION TOOL UPDATE

Activity	Timeframe	Details

Effectiveness Team Initiates Work	Feb 2017	• Develop tools for conformance and effectiveness
		  • Conformance = Level 3 (all Elements in place)
		  • Effectiveness of Implementation = Level 4 (continuous improvement)
		  • Effectiveness of Results – Level 5 (KPIs indicate safety improvement)
		• Based on 234 shall statements and application of maturity model
		• Bi-weekly meetings to develop framework

Review Key Inputs	Aug-Sep 2017	• Applied items from API PSSAP guidance and process documents; APIQR audit documents; API COS maturity model
PHMSA Audit Participation	Sep 2017	• Review of Vectren PHMSA audit results and reports
	Dec 2017	• Team consultant participated in week-long PSMS review with PHMSA representatives at Marathon PL
Revised Evaluation Tool	Jan 7, 2018	• Evaluation Tool re-focused from a "shall statement" review to a "Purposes / Objectives" review, going from 234 Shall statements to 50 questions addressing the purposes and objectives of the RP. • Several cycles of Effectiveness Team review and revision
Desktop Testing	Jan-Feb 2018	• Team members / SMEs test the tools with desktop auditing • Enbridge ,Plains , TransCanada
Review of KPI Application	Mar-Apr 2018	• Joint Industry Team reviews and establishes KPIs for level 5 evaluation that apply across liquids and gas transmission and distribution

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EVALUATION TOOL UPDATE, CONTINUED

Activity	Timeframe	Details
Final Draft Prepped	Apr 7, 2018	• Final version for testing with volunteers • Guidance + Evaluation Tool • KPIs for all industries
API PSSAP Assessor Review	May-June 2018	• Comments relating to challenge auditing to the 50 high level questions • KPI reporting and evaluation straight forward • Developing more detailed auditor guidance for third party
Tool Pilot w/ Volunteers	May-June 2018	• 4 industry volunteers identified – Colonial, Monroe, ETP, Loop • No major concerns • Positive comments – simplicity; KPIs for small, medium, large operators; Evaluation Guide is detailed and helpful • Opportunities for improvements – confusion between evaluation and implementation tool; challenges with subjectivity assessing the 50 versus 234 questions; formatting clean up; PHMSA definitions on some of the KPIs; audit/auditors references vs. evaluation/evaluators

Key comment…. "It's time to start using it"

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A4   Operating Procedures

Short Question Name	Element # / Requirement / Section #	Score	Comments	"Shall" #
	4. Operational Controls - Section 8			
Operating Procedures	Operations procedures (operating, maintenance, emergency response, control of materials), consistent with the Operator's safety policies and objectives and which consider safe operating limits, which operations personnel follow and have responsibility / authority to raise concerns, get permission to deviate, and stop work meanwhile, are in writing for the following topics: ○ initial start-up (new or modified facilities) ○ normal operation ○ temporary operations, as the need arises ○ emergency operations, including emergency shutdowns ○ normal shutdown ○ start-up or restoration of operations following maintenance or outage	2.5		8.1-1 8.1-2 8.1-3 8.1-4 8.1.2 8.1.2.a.1 8.1.2.a.2 8.1.2.a.3 8.1.2.a.4 8.1.2.a.5 8.1.2.a.6 8.1.2.b
Operating Procedure Review	Operating procedures are routinely reviewed according to risk (at least annually) to identify improvements and lessons learned, and document changes.	3		8.1.3-1 8.1.3-2 8.1.3-3
Construction Quality Management	Systems are in place to ensure the design, purchasing, control of materials, manufacturing, fabrication, and installation of PSMS-covered pipeline systems occurs per the specified requirements, specifications, regulations, and applicable standards, with QC / inspection.	2		8.1-1 8.2.1 8.2.2 8.2.3
Maintenance	Procedures are in place for operating and maintenance activities, including inspection and testing of safety devices.	3.5		8.2.1 8.2.4 8.2.5
Management of Change	A Management of Change (MOC) procedure is in place for changes to technology, equipment, procedures, or organization (not just procedures), whether permanent or temporary, and incorporates planning for the effects of the changes. The MOC procedure includes: ○ Reason for change ○ Authority for approving changes ○ Analysis of implications and potential risks ○ Acquisition of required work permits ○ Documentation of change process ○ Communication of change to affected parts of the organization ○ Time limitations ○ Qualification and training of personnel affected by the change	2.5		8.3.1-1 8.3.2.1 8.3.2.2 8.3.2.3 8.3.2.4 8.3.2-1 8.3.2-2 8.3.3.a 8.3.3.b 8.3.1-2 8.3.3.c 8.3.3.d

Implementation Scores | Effectiveness Scores | Summary | 234 Shall Statements

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RP 1173 Section	RP 1173 Citation	API RP 1173 Requirement	Level 3 (Implemented)	Level 4 (Sustaining)	Comments
5	5.1-1	Has the pipeline operator established and maintained a PSMS and built a shared understanding of safety culture?	• The operator is able to produce evidence that a PSMS has been established and maintained. • Employees within the organization understand the importance of safety and the implementation of safe practices in their tasks.	• There is documentation to demonstrate the PSMS procedures and processes are being followed. • Personnel affected by the PSMS can demonstrate that they understand the PSMS safety requirements and that safe practices are incorporated into their day-to-day activities.	
5	5.1-2	Has top management communicated expectations by documenting the pipeline operator's policies, goals, and commitment to safety, as well as identifying safety responsibilities of personnel at all levels?	• The pipeline operator's policies, goals, and commitment to safety have been documented. • Safety responsibilities of personnel at all levels have been identified and documented.	• Interviewed personnel demonstrate understanding of the company's policies, goals, and commitment to safety. • Personnel at all levels are aware of their responsibilities to maintain and improve workplace safety, and the safety requirements specific to their roles.	
5	5.1-3	Has the pipeline operator improved upon the PSMS and measured its effectiveness and maturity in accordance with the requirements of this document?	• The operator has documented a process to evaluate and improve the PSMS. • KPIs to measure the effectiveness of the PSMS have been identified and documented. • The criteria for maturity levels of the PSMS have been established and documented.	• There are revision records of the PSMS based on recommendations from top management, management review, employee input, etc. • The effectiveness and maturity of the PSMS have been evaluated during management review. • Top management is aware of the current status of the PSMS implementation and areas for improvement.	
5	5.2-1	Has top management established and documented the goals and objectives for the PSMS?	• Top Management has identified and documented its goals and objectives for the PSMS.	• PSMS goals and objectives address all elements listed in API 1173. • There is evidence that top management is measuring the performance of the organization against the PSMS goals and objectives. • Interviews with employees demonstrate that the PSMS goals and objectives are known/understood or the employees know how to find them.	
5	5.2-2	Are the objectives measurable and consistent with overall safety policies and objectives?	• The PSMS objectives are clear, concise, and measurable. • The objectives are achievable and consistent with overall safety policies and objectives, and demonstrate an effort to improve safety.	• Performance indicators to measure each objective are identified and documented. • There is documentation that demonstrates PSMS objectives are measured and reviewed. • Personnel responsible for or affected by the PSMS demonstrate agreement on the measurability and consistency of the PSMS objectives.	
5	5.2-3	Has top management created a culture within the organization that encourages openness and two-way dialogue so learnings from incidents and events can ultimately reduce the risk of recurrence?	• Top management has documented reporting and feedback processes which allow two-way communication concerning incidents and events. • There is evidence of communication from top management to the whole organization which encourages openness and two-way dialogue. • The reporting policy is non-punitive.	• There is documentation of two-way communication between management and employees concerning incidents and events related to pipeline safety. • Employees believe the incident reporting policy is non-punitive. • During interviews, employees are willing to discuss communication and incident reporting in the presence of their supervisors. • There is adequate employee participation in safety-related committees and	

Implementation Scores | Effectiveness Scores | Summary | **234 Shall Statements**

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PSMS KPIs in Evaluation Tool 6-26-2018

Similar KPIs for all segments of the energy pipeline industry

- Incident Rate (PHMSA reportable)
- Incidents impacting the public / kmile (PHMSA reportable)
- Injury rate (OSHA – all personnel within the Pipeline SMS scope)
- Injuries (PHMSA reportable – any)
- Fatalities (PHMSA reportable - any)

The first 3 metrics are scored versus industry segment averages.
The last 2 (injuries and fatalities) are automatic deductions.

Note:
"impacting the public" definitions vary between pipeline industry segments
"indicators" definitions vary between pipeline industry segments

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Comparative KPIs (versus industry peers)

Liquid	Gas Transmission	Gas Distribution
• **ROW incidents / kmile**	• ROW Incidents / kmile	• Incidents / kmile (main and services)
• **PHMSA IPE / kmile**	• Incidents with public impacts / kmile	• Excavation damages / kmile (main and services)
• **OSHA Injury Rate**	• OSHA Injury Rate	• OSHA Injury Rate

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Addressing Small and Medium Operators for Comparative KPIs

- For the Comparative KPIs, an operator with:
  - less than 500 miles of pipe would use a 3-year average
  - 500 or more miles of pipe but less than 1,000 miles would use a 2 year average
  - 1,000 or more miles of pipe would use their most recent 12 months or prior year's data, whichever is available.

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Automatic Deduction KPIs	
Any event	KPI Scoring
Injuries PHMSA	-0.25 (each injury incident without a fatality)
Fatalities PHMSA	-0.50 (each incident with fatalities or both fatalities and injuries)

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Scoring Method

- Average comparative KPIs, then make automatic deductions for PHMSA injuries or fatalities (if any)

Comparative KPI scoring	
Operator rate versus industry average	KPI Scoring
<= 50%	0
>50% but <= 75%	.50
<75%	0.00
	-0.25
50%	-0.5

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Example KPI for Effectiveness Evaluation

In the past 12 months, a large liquid pipeline operator has:	re
• OSHA Injury Rate that is 80% of industry avg	
• ROW incidents / kmile that is 75% of industry avg	
• PHMSA IPE / kmile that is 0% of industry avg (non	+1.00
COMPARATIVE KPI SCOR	+0.50
Fatali	??
Injuries duction	??
Total KPI score	???

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	A	B	C
1			
2	PSMS Element Implementation	Score	
3	Leadership and Management Commitment	2.4	
4	Stakeholder Engagement	2.1	
5	Risk Management	2.7	
6	Operational Controls	2.6	
7	Incident / near miss investigations	2.5	
8	Safety Assurance / Audits	2.3	
9	Management Review and Continuous Improvement	1.0	
10	Emergency Preparedness and Response	3.0	
11	Competence, Awareness, and Training	2.3	
12	Documentation and Record Keeping	2.5	
13	Company Implementation Score (avg)	**2.4**	0 to 4
14			
15	Effectiveness Score	-0.5	-0.5 to 1.0
16			
17	Combined PSMS Score (A+B)	1.9	Maximum of 5
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21	Note: The company implementation score is an average of every		
22	question score, not an average of every Element score.		
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Implementation Scores | Effectiveness Scores | **Summary** | 234 Shall Statements

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EVALUATION TOOL-NEXT STEPS

Webinar — June 26th

 o Introduce tool and ask for feedback

Continue to Receive and Review Feedback — July-October 2018

 o Complete development of KPIs used for Effectiveness evaluation

 o Evaluation of feedback through to workshop

Third Party Audit Pilot — September 2018

 o Colonial has volunteered — currently using tool

 o Finalizing auditor guidance to use with tool (address subjectivity)

Tools Workshop — October 10, 2018

 o Feedback, Operator experiences with tool

Consider Revisions — Post Workshop

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API Voluntary third party audit program
Update

- Recognized, consistent industry-wide protocols and process
  - Evaluation tool questions as part of audit
  - Qualified-competent safety management system auditors
- July – August 2018 – finalizing audit process and vetting auditors
- September 2018 – Pilot process and tools with liquids operator
- Q4 2018 / post-pilot – Launch to industry
  - Audits billed at cost + admin fee – daily auditor rates plus expenses
  - API Global Industry Services – Program Management
- Questions or interested in audits – contact Aaron Duke at dukea@api.org

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Questions and Discussion

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