

Management Systems

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RP 1173

API Recommended Practice For Pipeline Safety Management Systems

A Systematic Approach to Pipeline Safety Management

As an industry responsible for delivering energy throughout the nation, measures need to be taken to ensure all is done to protect communities and the environment with safe pipeline operations. For this reason, the U.S. National Transportation Safety Board (NTSB) recommended the industry develop guidance for safety management systems for energy pipeline operations. Safety management systems (SMS) have proven to help in other industries, such as aviation, nuclear power and chemical manufacturing.

Pipeline operators, through the American Petroleum Institute (API) and in partnership with the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA), state pipeline regulators, and other interested stakeholders developed API RP 1173 to bring the benefits of SMS to pipeline operations. API RP 1173 users will gain a better understanding of how to systematically manage pipeline safety, and continuously measure progress to improve overall pipeline safety performance.

Implementation of Pipeline SMS is a journey, not a destination, and operators will face challenges and bumps along the way. However, with leadership commitment, the pipeline industry can earn the benefits of continual safe operations resulting from a strong Pipeline SMS.

Flexible and Scalable

API RP 1173 is designed to be scalable and workable for companies of all sizes. Its framework applies to companies with 10 employees or 10,000 employees. The systematic approach to Pipeline SMS described in API RP 1173 is flexible enough to help companies that have few documented management systems as well as those that already have a sophisticated, corporate-wide SMS. In all cases, the use of API RP 1173's framework should assist the pipeline operator in achieving optimal safety performance.

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10 Key Elements

Energy pipeline operations are complex and frequently require the coordinated efforts of many different people and organizations. Applying a systematic approach to the comprehensive management of safety in a complex operating environment can be daunting. API RP 1173 describes 10 essential elements for the comprehensive and systematic management of safety-related activities for energy pipeline operations, and explains how these 10 elements can be used as part of a logical, repeatable, and consistent approach to ensure safe pipeline operations across a potentially complex operating organization.

1. Leadership and management commitment
2. Stakeholder engagement
3. Risk management
4. Operational controls
5. Incident investigation, evaluation, and lessons learned
6. Safety assurance
7. Management review and continuous improvement
8. Emergency preparedness and response
9. Competence, awareness, and training
10. Documentation and record keeping

Improved Safety Culture

The RP explains: "Implementing PSMS elements strengthens an organization's safety culture. Establishing safety as a core value strengthens the overall organization's belief in its importance, acting as a unifying force to improve safety performance" and "The PSMS, with all its discrete elements, supports the culture, and the culture feeds back into the management system in a continuous process, yielding an increasingly mature organization."

Continuous Safety Performance Improvement

API RP 1173, like other management systems, harnesses the Plan-Do-Check-Act cycle to enable continuous safety performance improvement. API RP 1173 users will "Plan" their pipeline operations with established safety objectives and the process necessary to deliver improved results. After performing operations in accordance with the safety plan, during the "Do" phase, API RP 1173 users will "Check" performance indicators to measure improvement. Evaluations of performance by the organization and its management brings adjustments to "Act" upon areas for safety performance improvement.

Stakeholders Collaborating to Improve Safety

API Recommended Practices (RPs) standardize and disseminate best practices across the industry

- Developed via open, accredited processes, with formal review and comment periods
- Provide all operators with the benefits of the industry's combined expertise in critical areas
- Once adopted and implemented, establish standard practices across the industry

