

Optional Guidance for API RP 1173 Pipeline Safety Management Systems Evaluations

Purpose

This document provides **optional** guidance to operators on how to plan and conduct an evaluation of their programs for compliance with API RP 1173. This guidance document is intended for internal use by those pipeline operators that do not already have an internal auditing process which addresses operational systems. Operators can deviate from this guidance as appropriate for their operations and to conform with their existing internal audit procedures.

Introduction

API RP 1173 describes the essential elements for Pipeline Safety Management **Systems** (emphasis added). These elements affect numerous policies, programs, and procedures which comprise the necessary systems to implement the essential elements of the RP. A systems evaluation requires a comprehensive consideration of how a variety of policies, programs, processes and procedures all work together to achieve the intended objective. A systems evaluation will not produce simple pass/fail results as an output, because there is no single correct policy, program, procedure, or process required to be in conformance with the RP. Many different approaches to implement each RP requirement are acceptable.

There is an important distinction between Pipeline Safety Management Systems (Pipeline SMS) and Process Safety Management (PSM). PSM is focused on the technical analysis of process safety hazards. Pipeline SMS encompasses the totality of safety management for a pipeline operating company, including such things as leadership and stakeholder engagement. Some pipeline operators will operate facilities regulated by PSM. In those situations, PSM would be under the umbrella of Pipeline SMS.

Assessment Team

Assessments of complex systems, such as Pipeline Safety Management Systems, typically require the input of several people who, combined, have expertise in all the areas to be assessed. The team shall consist of a leader and members whose combined experience is adequate to address every aspect of RP 1173, as described below. The depth and breadth of experience required in the audit team should be commensurate with the level of Pipeline SMS implementation. Initial assessments could be conducted by a single person with appropriate qualifications – especially in the early stages of implementation of a Pipeline SMS. As the Pipeline SMS reaches maturity, the evaluations will require people with expertise in each subject area.

Qualifications of Team Members

Team Leader:

- Knowledgeable about management systems, and specifically the requirements of API RP 1173.
- Previous experience with internal audits, preferably including management system audits.

- Thoroughly familiar with pipeline operations and management, preferably with some operations management experience.
- Excellent written and verbal communications and project management skills.
- Good interpersonal skills.

Team Member:

- Experience with operational, management, and risk analysis practices related to the portions of RP 1173 that they will evaluate.
- Thorough understanding of the requirements in the portions of RP 1173 that they will evaluate.
- Good verbal and written communication skills, and interpersonal skills.
- Preferably previous auditing experience.

Evaluation Process Steps

An internal assessment shall typically consist of the following steps:

- Define the purpose and audience for the assessment (internal assessment for implementation team members' progress evaluation, management update, top management report, etc.)
- Identify the type of evaluation to be conducted and its scope:
 - Elements of API RP 1173 to be evaluated
 - Range of operations to be included (all pipeline operations, headquarters only, etc.)
 - The types of documents and activities to be evaluated, as appropriate for the current level of maturity (paperwork only, programs, evidence of effective implementation, etc.)
 - Duration of the assessment (1 day? 1 week?).
 - Desired assessment outputs (Implementation Tool spreadsheet update / confirmation, verbal report / presentation, formal written report, etc.), including review process (technical review? Management review? legal review?)
- Identify the team leader and team members, and ensure their availability.
- Determine how information will be aggregated (SharePoint site, LAN directory, etc.).
- Secure funding as appropriate for travel and any outside assistance.
- Gather and evaluate information necessary to evaluate PSMS conformance.
- Schedule and conduct interviews of persons involved as needed to determine PSMS implementation level.
- Determine and document implementation levels using the Implementation Tool. Retain backup information to support the implementation level selected.
- Prepare draft findings and recommendations and review them as appropriate.
- Finalize presentations and reports (see appendix for an example outline).

Breadth and Depth of Assessment

In the early stages of development (levels 0-2 on the Implementation or Conformance Tools), an assessment might be conducted by simply interviewing the person(s) responsible for PSMS development and reviewing program documentation and procedures. As the PSMS matures (reaching levels 3 and 4), the cross section of potential interviewees will become larger, as will the size and expertise of the assessment team. Interviews should be conducted of a cross section of the organization to obtain an

accurate view of the level of implementation of the PSMS across the organization. At level 4, representatives from line workers to top management who are responsible for or whose work is affected by the PSMS should be interviewed.

The assessment process and its findings should be forward-looking. Assessors should identify opportunities for improvement and make appropriate recommendations to enhance the effectiveness of the PSMS under review, while noting any deficiencies.

A systems review is not a detailed compliance review and perfection is not the objective criteria. A few errors produced by a process may point to opportunities for improvement, but do not necessarily indicate that the system overall is not effective. For example, if a process should have been followed in 6 different situations, but evidence only exists to demonstrate that the process was followed in 5 of those situations, the assessment finding would note that the process exists and is being used— and also note an opportunity for further improvement to ensure that it is followed every time. The question for the assessor is whether the process is at Level 3 (Implemented) or Level 4 (Established). At level 4, persons performing this assessment should look for evidence that the processes in place are working as designed.

If personnel prefer to speak in private with assessors regarding things they consider to be issues, instead of mentioning them in the presence of their superiors, it may indicate a punitive work environment that is inconsistent with the safety culture objectives of the RP.

Appendix

The appendix contains a DRAFT Assessment Planning Form and Assessment Report. Operators may want to use these forms if they don't have another preferred format. These are not prescriptive, and can be modified as desired by the Operator. They are intended to provide a starting point for those who would like assistance in planning for and reporting on an internal PSMS assessment.

**DRAFT Outline
Pipeline SMS
Assessment Report**

Date:

By

Executive Summary

On DATE to DATE, an internal assessment was conducted to assess the level of implementation of the organization's Pipeline SMS to API RP 1173.

The assessment team was composed of

- List names....
-

The scope of the assessment included:

- List the things that were assessed
-

The assessment team has found the following practices effective in implementing API RP 1173:

- List the things that are working well
-

The assessment team has made the following observations:

- List the things that were noteworthy, both good and bad
-

The assessment team has the following suggestions for improvement:

- List the things the team agrees should be improved
-

Summary of Assessment Observations and Suggestions

If the Implementation Tool was used, include the Bar Chart (by Element) and the Pie Chart (overall) to summarize the level of implementation.

RP 1173 Section	Element
5	Leadership and management commitment
6	Stakeholder engagement
7	Risk management
8	Operational controls
9	Incident investigation, evaluation, and lessons learned
10	Safety assurance
11	Management review and continuous improvement
12	Emergency preparedness and response
13	Competence, awareness, and training
14	Documentation and record keeping

Results by Element (complete the table below for each Element which was assessed)

Element:
Observations:
Effective Practices:
Suggestions for improvement: