

API Standards

For Industry, by Industry



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Standards Program Mission

Provide a forum for development of consensus-based industry standards, and technical cooperation to improve the industry's safety performance and competitiveness.



API Standards Program

- ❖ **API publishes ~700 technical standards covering all aspects of the oil and natural gas industry**
- ❖ **Over 7000 active volunteers representing over 50 countries**
- ❖ **One-third of all API standards are referenced in the U.S. regulations**

API Standards Program

- ❖ **Basis for company operations worldwide**
- ❖ **Foundation of API quality and certification programs**
- ❖ **API is accredited by the American National Standards Institute (ANSI)**
 - **Transparent process**
 - **Openness, balance, consensus, due process**
 - **Program audited by ANSI every five years**

API Standards Committees

**Committee on
Standardization of
Oilfield Equipment &
Materials (CSOEM)**

**Drilling and Production
Operations Subcommittee
(DPOS)**

**Committee on Refinery
Equipment
(CRE)**

**Committee on
Petroleum Measurement
(COPM)**

- **Safety & Fire Protection**
- **Pipelines**
- **Marketing/Aviation**

API Standards Committees

- ❖ **Standards committees typically meet twice a year**
- ❖ **Subgroups (task groups, resource groups) meet as needed to progress work, often via conference calls or web meetings**
- ❖ **Balance between operators, manufacturers, contractors, service companies, and consultants**
- ❖ **API corporate membership is not a requirement for participation on API standards committees**

Standards Development Process

- ❖ **All standards balloting is done via the web**
- ❖ **All comments must be considered and the resolution documented**
- ❖ **One vote per company on standards ballots**
- ❖ **Voting rights are determined by level of participation**

What is “Consensus”?

- ❖ Consensus is established when substantial agreement has been reached by directly and materially affected interests
- ❖ Substantial agreement means more than a simple majority but not necessarily unanimity
- ❖ Consensus requires that all views and objections be considered, and that a reasonable effort be made toward their resolution.
- ❖ API’s criteria for achieving consensus is defined as a majority of those eligible to vote shall have voted *and* approval by at least two-thirds of those voting, excluding abstentions

Compliance with Industry Standards

- ❖ All API documents are voluntary unless imposed by regulation, contract, or company procedures
- ❖ The document type does not determine compliance

Document Designations

- ❖ **Specifications**
- ❖ **Standards**
- ❖ **Recommended Practices**
- ❖ **Bulletins**
- ❖ **Technical Reports**

Document Designations

- ❖ **Specifications** – Documents written to facilitate communications between purchasers, manufacturers, and/or service suppliers
- ❖ **Standards** – Documents that combine elements of both specifications and recommended practices

Document Designations

- ❖ **Recommended Practices** – Documents that communicate proven industry practices; RPs may include both mandatory and non-mandatory provisions
- ❖ **Bulletins & Technical Reports** – Documents that convey technical information on a specific subject or topic and are generally issued on a one time-basis

Scope

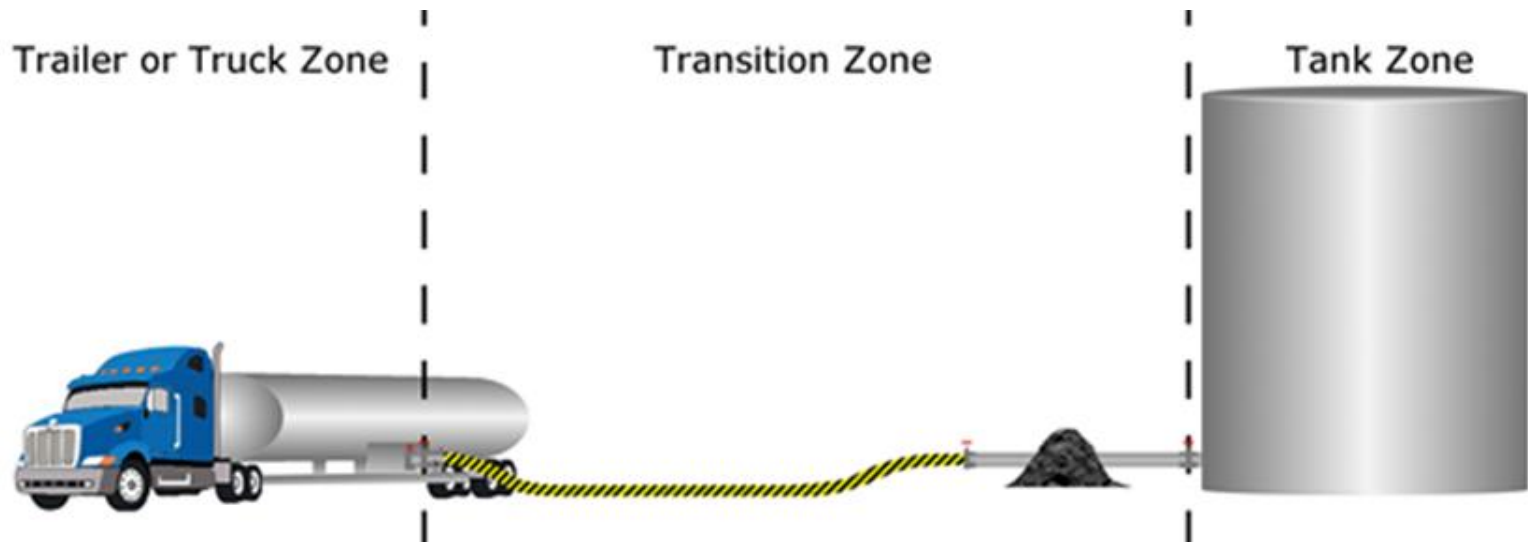
- ❖ **Appears at the beginning of each document and defines without ambiguity the subject of the document and the aspects covered or excluded**
- ❖ **Indicates the limits of applicability of the document and cannot contain “shall” or “should” statements**
- ❖ **The scope should be brief so that it can be used as a summary for and the API Publications Catalog**

Custody Transfer of Crude Oil from Lease Tanks Using Alternative Measurement Methods



- **1st Edition**
- **Scope - This standard defines the minimum equipment and methods used to determine the quantity and quality of oil being loaded from a lease tank to a truck trailer without requiring direct access to a lease tank gauge hatch. Methods and equipment described are grouped by tank zone, trailer zone, and the transition zone between the two. The equipment used for measurement is dependent on the existing design of the lease equipment, the equipment used to transport the product or a combination of the two. Some sites may require measurements from multiple zones in order to arrive at an accurate load quantity and quality.**
- **Ballot closes May 13, 2016 <http://ballots.api.org/openBallots.aspx>**
- **Comment Resolution following ballot closure**
- **Publication once comments are resolved**

API MPMS Chapter 18.2 Custody Transfer of Crude Oil from Lease Tanks Using Alternative Measurement Methods





RP 77 Risk-based Approach for Managing Hydrocarbon Vapor Exposure during Manual Tank Gauging and Sampling of Onshore Production Facilities

- **1st Edition**
- **Scope - Provide recommend practices for managing the risk of hydrocarbon vapor exposure to personnel performing manual tank gauging and sampling for onshore exploration and production oil and gas storage facilities.**
- **Next Meeting week of June 13**
- **Contact Roland Goodman goodmanr@api.org to participate**

Links to More Information

- ❖ **API Procedures for Standards Development**
<http://mycommittees.api.org/standards/scdpo/Shared%20Documents/API%20Procedures%20for%20Standards%20Development-2011-Revised%202012.pdf>
- ❖ **API Format and Style Manual**
<http://mycommittees.api.org/standards/ecs/Shared Documents/Standards Development Tools/API Document Format and Style Guide - Jan. 2009.pdf>
- ❖ **Annual API Standards Plan**
<http://www.api.org/publications-standards-and-statistics/annual-standards-plan>
- ❖ **Meetings & Training**
<http://www.api.org/meetings>
- ❖ **Catalog of Publications**
<http://www.api.org/products-and-services/standards/purchase>

Questions??



BACK UP SLIDES

What makes a good standard?

- ❖ **Clear objective based on sound technical principles**
- ❖ **Reasonable and practical**
- ❖ **Not restrictive of technology development**
- ❖ **Proven engineering practices – the terms “good” or “best” practices are subjective**
- ❖ **Input from all stakeholders**
- ❖ **Addresses those issues that make a difference**
- ❖ **Risk-based when appropriate**

Prescriptive vs. Performance-based Standards

- ❖ **Prescriptive standard – typically prescribes materials, design, and construction methods without stating goals and objectives (“how”)**
- ❖ **Performance-based standard – expresses desired characteristics of the final product, service, or activity rather than requirements for the processes to produce it (“what”)**

Prescriptive vs. Performance-based Standards

- ❖ **API generally prefers performance-based**
- ❖ **Advantages**
 - **Allows earlier use of new technology**
 - **Encourages innovation**
 - **Goals and objectives are clearly stated**
 - **Development and maintenance requires less effort**

Prescriptive vs. Performance-based Standards

- ❖ **A mixed approach may be necessary depending on whether or not the requirements meet the goals and objectives of the standard**
- ❖ **Prescriptive requirements may be necessary for safety and interchangeability – e.g. thread sizes for connections, pressure testing requirements, etc.**
- ❖ **Prescriptive requirements should be considered when performance-based requirements lead to costly and complicated testing procedures**

Performance-based Elements

- ❖ **Establish goals for the standard**
- ❖ **Specify assumptions about the service to be performed or condition of the equipment and its environment**
- ❖ **Establish objectives necessary to meet specified goals**
- ❖ **Establish performance criteria**
- ❖ **Establish verification criteria**