

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 ~600 technical standards covering all aspects of the oil and natural gas industry**
- ❖ **Over 5000 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)**

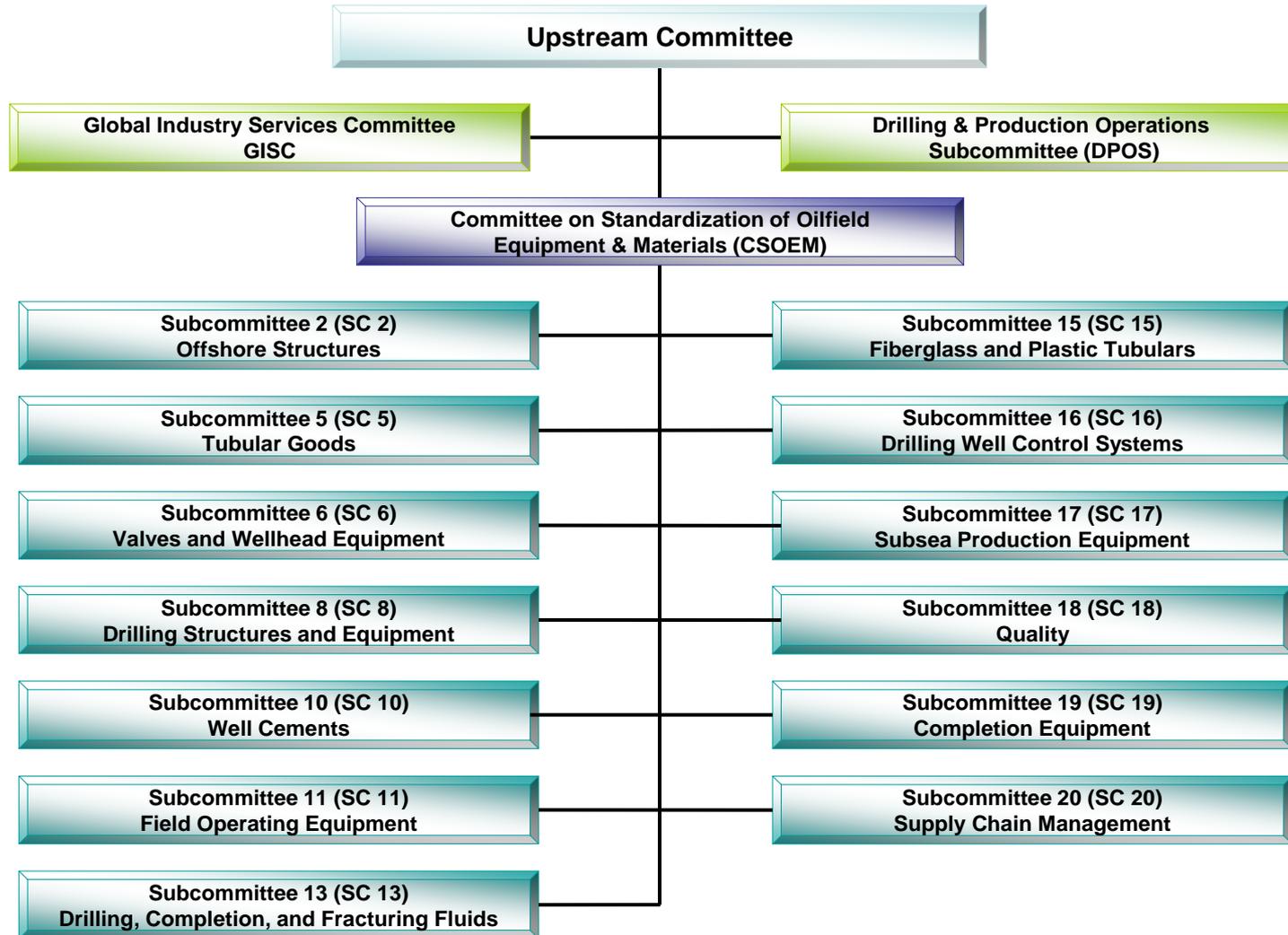
**Committee on
Petroleum Measurement
(COPM)**

- **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**

Upstream Standards Committees



Requirements for Standards Committee Membership

- ❖ **Be technically proficient in a discipline related to the standard**
- ❖ **Have the support of company management to participate**
- ❖ **Attend/participate in committee meetings**
- ❖ **Agree to work on committee business such as standards revisions and technical inquiries**

Standards Development Process

- ❖ **Developed using a consensus-based process (does not mean unanimity)**
- ❖ **Generally written for flexibility as performance-based documents**
- ❖ **Standards committees decide when to develop a new standard**

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

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 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**

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

Expression of Provisions

Only these terms shall be used!

- ❖ **shall** – indicates that a provision is mandatory
- ❖ **should** – indicates that a provision is not mandatory, but recommended as good practice
- ❖ **may** – signifies permission and indicates a provision is optional
- ❖ **can** – used for statements of possibility or capability

Expression of Provisions

- ❖ **Avoid using vague expressions that are not truly informative and may cause the reader to make an incorrect judgment call**
- ❖ **Words like “very,” “excessive,” “slightly,” “approximately,” “nearly,” or “significant” are subjective and are not useful in standards**

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/publications>