

Oil & Natural Gas Industry Standards for Hydraulic Fracturing & Unconventional Wells

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IEA Golden Rules for Gas Workshop

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Introduction to API

Members: Over 500 members including operators & service companies

History: founded in 1919 to focus on taxes, statistics & equipment & operational standards

Over 600 Standards, Certifications & Recommended Practices:

covering all aspects oil and natural gas industry, including exploration & production, refining, marketing, and pipeline transportation. These are a basis for global operations & the core of API's technical authority.

API Standards cited nationally (**100** standards over **270** times), by states (**184** standards over **3300** times) and globally

API is accredited by the American National Standards Institute (ANSI)

- Openness, balance, consensus, and due process
- Transparent process (work program published in federal register and anyone can comment www.api.org/standards)
- Evergreen (standards reviewed regularly)

API Work Re: Hydraulic Fracturing

5 main documents, but over 65 onshore operational standards with over 4,000 pages

RP 51R, *Environmental Protection for Oil Onshore Oil and Gas Production Operations & Leases* (2009)

- Broad overview of governmental protections, lease roads, drilling & production (planning through abandonment), produced water & management practices, production, site reclamation & Good Neighbor Practices

HF1, *Hydraulic Fracturing Operations – Well Construction &* (2009)

- Well construction, integrity & redundant casing, logging, testing, etc.

65-2, *Isolating Potential Flow Zones During Well Construction* (2010)

- Mechanical barriers, cementing techniques, pressure tests, etc.

HF2, *Water Management Associated with Hydraulic Fracturing* (2010)

- Water supply (including sourcing, fluid handling, disclosure, storage), management & disposal (treatment & injection), etc.

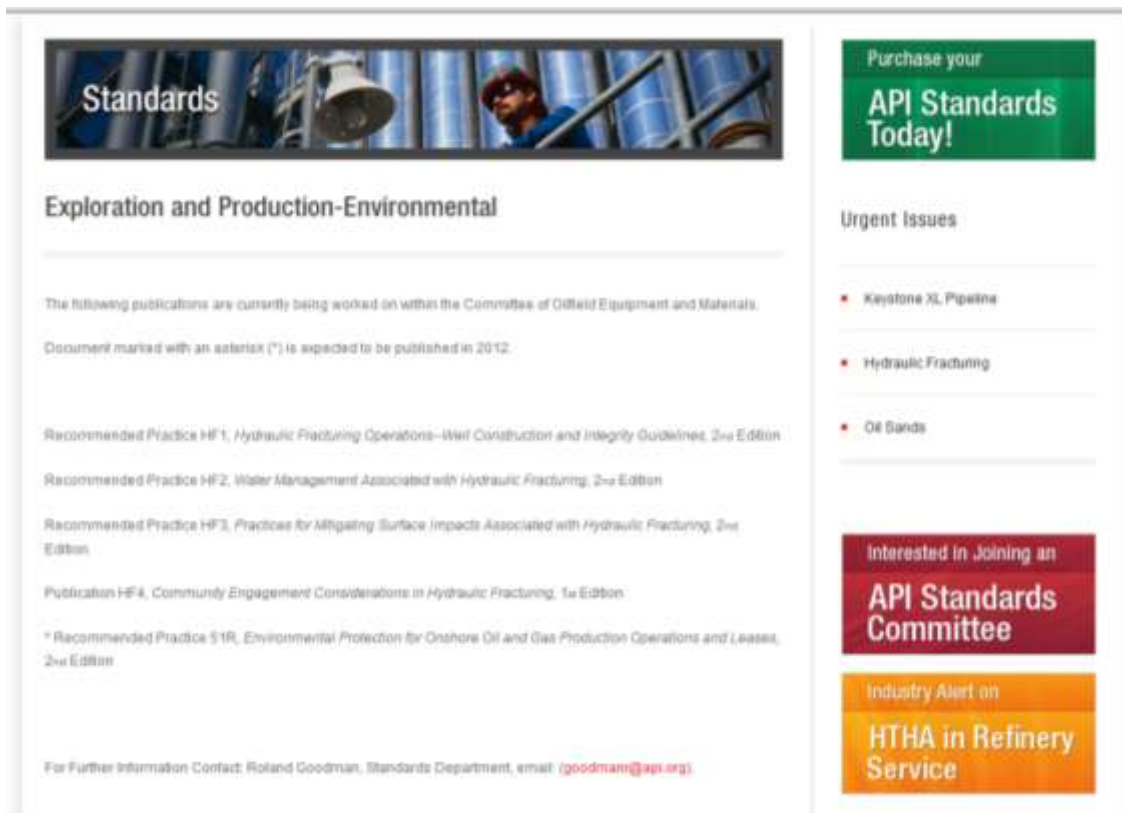
HF3, *Practices for Mitigating Surface Impacts Associated with Hydraulic Fracturing* (2011)

- Stakeholder engagement, scale of development (STRONGER, NPC & regional collaboration), chemical management (total impact, greener alternatives, disclosure through www.fracfocus.org), transportation, facilities (maintenance & inspections), minimization of surface disturbance (air quality, noise abatement through distance and scheduling, reducing road impacts through scheduling & coordination), etc.

2012 Work Program – Participate!

<http://www.api.org/Publications-Standards-and-Statistics/Annual-Standards-Plan/Standards%20Plan%20Segments/Exploration%20and%20Production-Environmental.aspx>

- Formalizing HF 1, 2, 3 through the standards process
- Creating HF4, specific to community engagement
- Series of 10+ regional outreach workshops & continued technical work
- Regular interaction with state & federal governments in support of effective, credible state regulation that addresses local concerns & avoids unnecessarily duplicative federal regulations



The screenshot displays the API Standards website's 'Standards' section for 'Exploration and Production-Environmental'. The header features a banner image with the word 'Standards' and a worker in a hard hat. Below the banner, the title 'Exploration and Production-Environmental' is prominently displayed. The main content area lists publications currently being worked on by the Committee of Oilfield Equipment and Materials. A note specifies that documents marked with an asterisk (*) are expected for publication in 2012. The listed publications include Recommended Practice HF1, HF2, HF3, HF4, and Publication HF4. At the bottom, contact information for Roland Goodman is provided. On the right side of the page, there are three promotional boxes: 'Purchase your API Standards Today!', 'Urgent Issues' listing Keystone XL Pipeline, Hydraulic Fracturing, and Oil Sands, and 'Interested in Joining an API Standards Committee'.

Standards

Exploration and Production-Environmental

The following publications are currently being worked on within the Committee of Oilfield Equipment and Materials.

Document marked with an asterisk (*) is expected to be published in 2012.

Recommended Practice HF1, Hydraulic Fracturing Operations—Well Construction and Integrity Guidelines, 2nd Edition

Recommended Practice HF2, Water Management Associated with Hydraulic Fracturing, 2nd Edition

Recommended Practice HF3, Practices for Mitigating Surface Impacts Associated with Hydraulic Fracturing, 2nd Edition

Publication HF4, Community Engagement Considerations in Hydraulic Fracturing, 1st Edition

* Recommended Practice S1R, Environmental Protection for Onshore Oil and Gas Production Operations and Leases, 2nd Edition

For Further Information Contact: Roland Goodman, Standards Department, email: goodmanr@api.org.

Purchase your
API Standards Today!

Urgent Issues

- Keystone XL Pipeline
- Hydraulic Fracturing
- Oil Sands

Interested in Joining an
API Standards Committee

Industry Alert on
HTHA in Refinery Service

QUESTIONS?

HF1, HF2, HF3, Standard 65-2, & RP 51R are available for FREE at:

<http://www.api.org/oil-and-natural-gas-overview/exploration-and-production/hydraulic-fracturing.aspx>

Other Resources:

www.api.org

www.energyfromshale.org