

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.

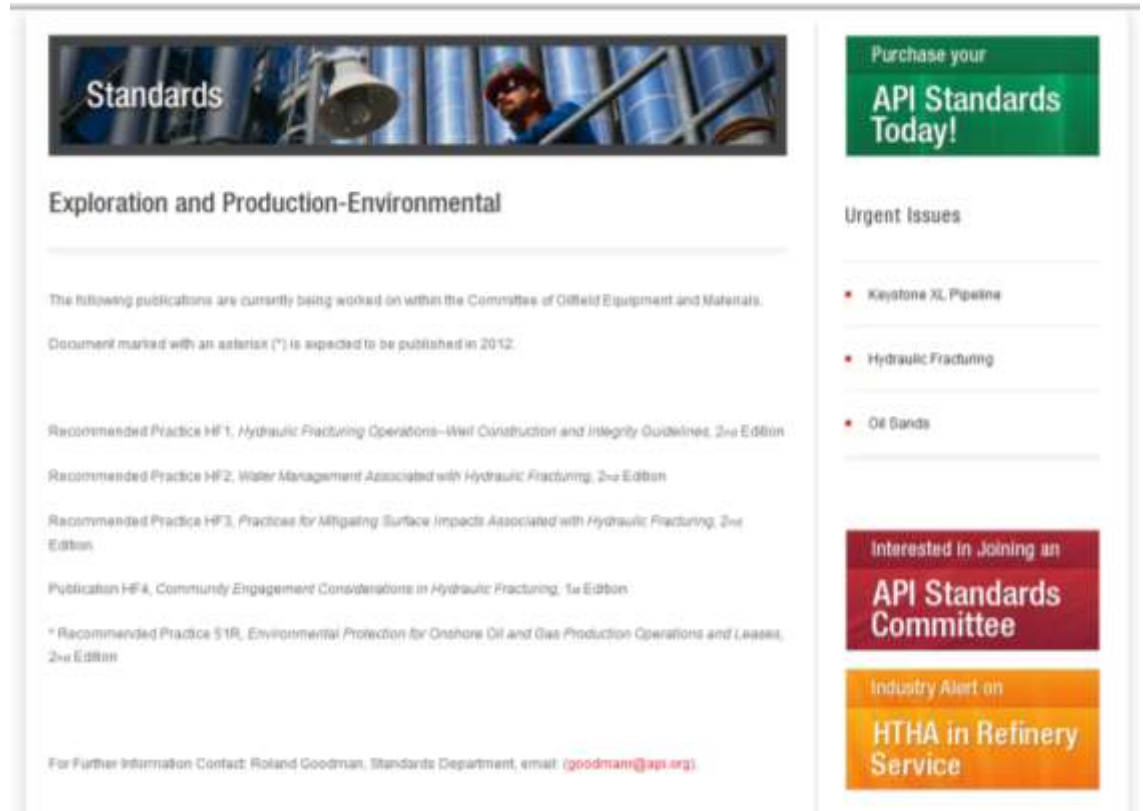
HF3, Practices for Mitigating Surface Impacts Associated with Hydraulic Fracturing (2011)

- 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 interface. At the top, there is a banner image with the word "Standards" overlaid. Below the banner, the section "Exploration and Production-Environmental" is highlighted. The main content area lists several publications currently being worked on by the Committee of Oilfield Equipment and Materials. A note indicates that documents marked with an asterisk (*) are expected to be published in 2012. The listed publications include:

- 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

At the bottom of the main content area, contact information for Roland Goodman, Standards Department, is provided: email: goodmanr@api.org.

On the right side of the page, there are several promotional boxes:

- A green box titled "Purchase your API Standards Today!"
- A white box titled "Urgent Issues" listing:
 - Keystone XL Pipeline
 - Hydraulic Fracturing
 - Oil Sands
- A red box titled "Interested in Joining an API Standards Committee"
- An orange box titled "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