New API Industry Standards for Shale Development

2016 GWPC UIC Annual Conference
February 24, 2016

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Topics

- API background
- API standards development process
- Use of API standards
- API HF-related standards
API Background

- **1919**: API founded as non-profit national trade association, New York City
  Three initial priorities – taxes, statistics, and equipment and operational standards

- **1923**: Standards Department formed; first standard published in 1925

- **1969**: API relocates to Washington, DC
  Heightened interest in public policy issues

- **2007 – 2014**: Opened four international offices in Beijing, Dubai, Singapore, and Rio de Janeiro
API Background

- API is the only national trade association representing all segments of the oil and natural gas industry
- Over 660 member companies involved in all aspects of the oil and natural gas industry
- Over 700 committees and task forces covering various advocacy and technical issues
- Staff of ~250 located in Washington, DC and in 34 states
Standards Development Process

- API is accredited by the American National Standards Institute (ANSI)
  - Openness, balance, consensus, due process
  - Standards undergo regular review (5 years minimum)
  - Regular program audits (conducted by ANSI)

- Transparent process (anyone can comment on any document – www.api.org/standards)
  
  All comments **must** be considered

- API corporate membership is **not** required (contact API at standards@api.org for consensus group participation information)
Value of API Standards

- Improves operational safety and equipment reliability
- Improves equipment interchangeability
- Reduces compliance costs
- Reduces procurement costs
- Foundation for company standards
API Standards

- API standards are the most widely cited industry standards by Federal and State regulators
  - 130 standards cited 460 times in Federal Regulations
  - 216 standards cited 4035 times in State Regulations
  - 23 API standards in COGCC Drilling, Safety, and Waste Management Regulations
New API HF-related Standards


- **Scope** – contains recommended practices for onshore well construction and fracture stimulation design and execution as it relates to well integrity and fracture containment

- **Well integrity**: the design and installation of well equipment to a standard that
  - protects and isolates useable quality groundwater,
  - delivers and executes a hydraulic fracture treatment, and
  - contains and isolates the produced fluids

Fracture containment: the design and execution of hydraulic fracturing treatments to contain the resulting fracture within a prescribed geologic interval

This document is not a detailed well construction or fracture design manual
ANSI/API RP 100-2


- **Scope** – provides proven practices applicable to the planning and operation of wells, and hydraulically fractured wells

- Topics covered include managing environmental aspects during planning; site selection; logistics; mobilization, rig-up, and demobilization; well construction; and stimulation operations

Provides recommendations on the following topics:

- baseline groundwater sampling
- source water management
- material selection
- transportation of materials and equipment
- storage and management of fluids and chemicals
- management of solid and liquid wastes
- air emissions
- site planning
- training
- noise and visual resources
Produced water provisions:

- Produced water should be evaluated for possible treatment and reuse
- Produced water impoundments should be lined with a natural or synthetic liner compatible with the material being stored
- Personnel involved with produced water management and handling shall be properly trained
- Operators should be aware of the general produced water characterization to identify and mitigate the potential worker hazards
Produced water provisions:

- Surface impoundments should be designed and constructed to provide structural integrity for the life of their operation.
- Operators should document and maintain information about hydraulic fracturing fluid, produced water and additive management and storage at the well site.
- Appropriate protective equipment and fluid management practices shall be used to protect personnel from contact with the produced water.

- **Scope** – outlines what local communities and other key stakeholders can expect from operators

- It is designed to **acknowledge challenges and impacts** that occur during the industry’s presence in a given region

- Provides **flexible and adaptable strategies**, recognizing that application will vary from operator to operator and community to community

- These guidelines are intended primarily to support onshore oil and gas projects for shale developments; however, they **can be adapted to any oil and gas project in the U.S.**
ANSI/API RP 100-3


  - Share as a guide for “good neighbor” policies to help maintain a license to operate
  - Manage expectations for all stakeholders
  - To be used by stakeholders and industry—operators, contractors, service companies, and local communities and officials
  - Assist the operator in developing an adaptable and evergreen engagement plan
  - Build long-lasting, successful relationships within the communities where the industry operates
Other HF-related Standards

  - Provides *environmentally sound practices* for domestic onshore oil and gas production operations intended to be applicable to contractors as well as operators.

  - Provides guidance on controlling flows just prior to, during, and after primary cementing operations to install or set casing and liner pipe strings in wells.
Other HF-related Standards

- Spec 10A, Cements and Materials for Well Cementing
- RP 10B-2, Testing Well Cements
- Spec 13A, Drilling Fluid Materials
- RP 49, Drilling and Well Service Operations Involving Hydrogen Sulfide
- Std 53, Blowout Prevention Equipment Systems for Drilling Wells
- RP 54, Occupational Safety for Oil and Gas Well Drilling and Servicing Operations
- RP 59, Well Control Operations
- RP 74, Occupational Safety for Onshore Oil and Gas Production Operation
- Bull 75L, Development of a Safety and Environmental Management System for Onshore Oil and Natural Gas Production Operation and Associated Activities
- RP 90-2, Annular Casing Pressure Management for Onshore Wells
Questions?

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www.api.org/Standards
www.api.org/policy/exploration/hydraulicfracturing