



Hydraulic Fracking Checklist

Energy companies have used hydraulic fracturing—often referred to as ‘fracking’—since the 1940s in order to enhance recovery of oil and natural gas from low-permeability (“tight”) rock formations. Frackers pump high-pressure fluids into rock formations to create and expand cracks and create pathways for valuable hydrocarbons to flow out. The stimulant fluids are usually water-based, with additional chemicals (acids, surfactants, biocides, etc.) to improve the effectiveness of the fracking process as well as solid ‘proppants’, which prop open the expanded openings (sand, etc.).

Within the U.S., state regulation of extraction wells has sometimes included provisions to regulate fracking, and federal ([GHG EPA](#)) and state environmental and worker safety regulations have addressed the issue of exposures and wastes. These regulations have included a general prohibition against direct discharge of spent and recovered fluids into surface waters, which has led operators to reinject these fluids into subsurface formations, or ship them off for contamination management.

Recently, improving field techniques and rising energy prices are transforming this small but stable field into a potentially huge one – with accompanying attention and controversies. On one side, some energy companies believe that the use of fracking and enhanced horizontal drilling techniques can allow extraction of trillions of cubic feet of gas and billions of barrels of oil. On the other, environmental groups fear extensive air and water pollution from mismanaged liquids and gases, seismic disturbances from fractured geologic formations, onsite and offsite health risks from chemical contamination, and increased GHG ([greenhouse gas emissions](#)) further contributes to climate change. Between these two camps, other professionals from industry, environmental organizations and/or government agencies are working to clarify questions and narrow areas of concern.

Fracking - Best Practice Checklist

- ✓ **Are all constituents in stimulant fluids and proppants identified (ideally, with Material Safety Data Sheets or newer Safety Data Sheets in hand)?**
- ✓ **Are detailed work plans in place for all hydraulic fracturing projects? These should include:**
 - Site information (surface and subsurface)
 - Proposed locations/depths and volumes of fluids to be injected
 - Operational details (equipment, pressures, monitoring, etc.) and associated procedures and worker and environmental safety measures
 - Methods and procedures for handling recovered fluids
 - Incident prevention and response protocols and equipment
 - Record keeping and reporting protocols
- ✓ **Are compliance measures in place, including required permits and regulatory compliance programs covering?**
 - Resource development in general, and fracking operations in particular?
 - Wastewater management, including subsurface injection and any surface management?
 - Air emissions?
 - Management of other wastes?
 - Worker protection and the right-to-know at work sites with fracking underway?