Society of Petroleum Engineers
Distinguished Lecturer 2014-15 Lecture Season

"Fracturing Fluids: How to Frac with Less or No Water"

D.V. Satya Gupta
Baker Hughes Pressure Pumping Technology
Discipline: Drilling and Completions

Abstract:

The projected self-sufficiency of energy in North America is due to the success of horizontal wells and multi-stage hydraulic fracturing. The US Environmental Protection Agency estimates that 140 billion gallons of water are needed annually for hydraulic fracturing operations in the United States alone. While that is just a fraction of the total US water usage, our industry is becoming a lightning rod in the water use debate. Add to that the growing concern about burgeoning truck traffic on local roads and the seismic activity often blamed on high-pressure wastewater injection into disposal wells, and you have an environment ripe for regulation proliferation. Additionally, the success of these technologies in North America is raising interest to develop unconventional resources in various parts of the world where fresh water resources are not readily available.

The presentation will describe technologies presently available for fracturing applications using lower-quality water (produced water, sea water, etc.), fluid systems that minimize or eliminate water (energized or foamed water-based fluids to reduce water usage by 30 to 85 percent), and systems based on non-aqueous liquids, or even no liquids at all. The take away from this talk will be opportunities to use hydraulic fracturing to develop energy resources with very little or no water.

Biography:

Dr. D.V. Satya Gupta is Business Development Director, Baker Hughes Pressure Pumping Technology. He has over 33 years of oil field chemical product development and applications experience. He is on the SPE editorial board and was on the editorial board of JCPT from 1995 to 2002. He has published over 60 papers and is listed as an inventor on over 130 international and US patents. He has a Doctor of Science in Chemical Engineering from Washington University, St. Louis, Missouri, USA. He is the recipient of the Baker Hughes Life Time Achievement Award in January 2013.