

Demand Growth Sparking Innovations

By Maggie Lee
Special Correspondent

With eight of every 10 active drilling rigs targeting natural gas reserves, operators are drilling an average of 2,700 new gas wells each month in the United States. The 32,000 new gas wells drilled in 2007 was up nearly 200 percent from five years earlier.

Those kinds of numbers are keeping the oil and gas field service and supply sector hopping, as operators lean on manufacturers and service and equipment providers to help develop new gas supplies and deliver them to market. They are also creating a need for increased compression horsepower requirements at virtually every point in the supply chain, beginning at the production site. Compounding the situation are ever-tightening regulatory standards for stationary engine exhaust emissions, including those that drive most field compressors.

The good news is that demand growth for compression equipment is sparking innovative new solutions ranging from next-generation compressor systems with unsurpassed operational reliability in both large- and small-volume applications, to aftermarket solutions to optimize the performance of older compressor systems that still have plenty of gas to move.

Enhanced Gas Treating

Independent producers always are looking for new ways to treat their gas using more efficient, cost-effective methods that meet standards required by environmental regulations. Now they have another alternative to consider, reports Mike McGhan, co-chief executive officer of Valerus Compression Services.

Enhanced Treating™ (ET) is a compact, skid-mounted amine treating system that typically can be installed in sev-

en days or less. It is able to use a higher concentration of up to 65 percent amine without corrosion or mechanical failure, McGhan emphasizes.

"A key element is that the system utilizes ET contactors, which enhance contact and absorption rates," McGhan comments. "The ET system uses up to 40 percent less fuel than conventional plants. In addition, no outside power is needed because it runs on a natural gas-powered generator.

"A lot more independents have had to resort to treating their own gas over the past 10-15 years because gas quality is getting poorer as wells deplete," McGhan remarks. "At the same time, pipeline regulations are becoming stricter and requiring cleaner gas. ET is a great alternative and it has a quick delivery. Time is of the essence in this business, and you cannot sell the gas until it is cleaned."

McGhan also notes that a gas stream of

20 million cubic feet of gas operating at 900 psi and 4.0 percent CO₂ can be treated to 2.0 percent using a 60 gpm ET amine unit.

"The advantages of the ET system over conventional plants include a 40 percent reduction in solvent, creating a reduction in fuel gas consumption, lower corrosion rates at higher solvent concentrations, lower operating temperatures, 50-percent turndown capability, operational simplicity, lower capital cost and mass production," he enumerates. "It also is compact and mobile, with no towers. It has a 50 X 75-foot footprint as opposed to 250 X 300, and no concrete foundations are required."

The ET prototype has been undergoing field testing since 2005 and Valerus is now preparing for the technology's full commercial launch, according to McGhan, who notes that EOG Resources Inc. already is using four ET units.

"The four units have performed to the



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engineered specifications Valerus predicted," an EOG spokesman reports, noting the company is using one 30-gpm and three 60-gpm units. "EOG has no cause to crit-

icize the quality of construction or volumes of gas the units will process. Compared with conventional amine plants, the units are easier to move and install, and they re-

quire much less fuel to operate. Changes in gas volume, pressure and inlet temperature gas do not affect operations as dramatically as a conventional plant." □



919 Milam, Suite 1000 Houston, TX 77002
Ph: 713-744-6100 F: 713-744-6101
www.valerus-co.com