

regard to sulfur species, but the NGL stream does not. In these cases, sulfur compounds must be removed from the NGLs. Several processes are used, depending on the sulfur species present in the NGL stream, but amine, molecular sieve, and caustic-wash systems are popular options.

Conclusions

Gas processing is a critical step in the natural-gas value chain. At a minimum, the gas must be processed to meet sales-gas specifications, and in many cases NGLs extracted from the gas provide a significant revenue stream to the producer.

Gas-processing facilities are more complex than production facilities, and their design and operation is far more dependent on the gas composition, flow rate, temperature, and pressure than most production facilities. In many cases, communication between reservoir/production engineers and the facility/process engineers who must design the gas-processing plant is limited. This situation can lead to “gaps in knowledge” on both sides of the system, resulting in inadequate designs, higher capital and operating costs, and reduced production rates.

A second, critical, factor at the production/processing interface is the negotiation of the gas-sales-contract terms. Small changes in a gas-sales specification can have a large effect on the cost and complexity of the gas-processing facility. This is particularly true for trace contaminants in the natural gas. Frequently, the negotiations between the buyer and seller focus on gas-quantity rather than gas-quality issues. The result can be quality specifications that

are unclear and/or difficult or impossible to meet. From the seller's perspective, it is critical that someone familiar with the complexities of gas processing be involved in the negotiation of gas-sales agreements.

Future Developments

Future natural-gas developments, particularly outside North America, increasingly will target high-pressure, high-temperature reservoirs containing gases with significant concentrations of contaminants such as Hg, CO₂, N₂, H₂S, and other sulfur species. The challenge for the midstream industry will be to process these gases economically, in a safe manner, and with minimal environmental effect. Efficient removal and disposal of gas contaminants will be a critical aspect of these projects, and most of the new-technology developments in gas processing will focus on this area. **JPT**

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PEOPLE

Brian Coffman, SPE, will help lead business development efforts in Maxwell Drummond International's Calgary office. He is managing consultant for Maxwell Drummond International. Before joining Maxwell Drummond International, he held various human resource positions for BHP Billiton. Coffman has more than 10 years of experience in executive search and human resources.



and a PhD degree in petroleum engineering from the University of Tulsa.

J.C. Cunha, SPE, was named manager of operations for Petrobras America. He is a former professor of petroleum engineering at the University of Alberta. Cunha is chairperson of the *JPT* Editorial Committee. He earned a degree in civil engineering from Juiz de Fora Federal University, an MSc degree in petroleum engineering from Ouro Preto University,

Karl Ruud, SPE, was named president and chief executive officer of Akita Drilling. Before this appointment, he was president and chief operating officer for Akita Drilling. Ruud has drilling experience internationally and has been with Akita since the formation of the company.

Kevin Strachan, SPE, was named group financial controller for the Ferguson Group. Before this appointment, he was chief financial officer for Chantry Networks.

MEMBER DEATHS

- Robert J. Doran**, Sydney
- Larry H. Flak**, Conroe, Texas