

Presentation to the 89th Annual GPA Convention on March 23, 2010 in Austin, Texas

Maintaining ROI on APC Investments – a Case History

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ABSTRACT

A Louisiana NGL Fractionator invested in advanced process control strategies in 2003 and has been utilizing these strategies continuously ever since. In 2008, the Fractionator saw an opportunity to achieve additional benefits as well as to update the APC controls that were commissioned 5 years previously. This paper discusses the performance of the strategies commissioned in 2003 as well as the additional enhancements added in 2008.

The original implementation in 2003 involved advanced composition control strategies on each of the following columns:

- Deethanizer
- Depropanizer
- Debutanizer
- Deisobutanizers (2)

The objective of the control strategies was focused on optimizing fractionation spread performance through better separation and maximizing production and profitability as a result. Because of the high amount of heat integration utilized in the process, this was a very challenging problem to solve. The paper will address the control strategies used, the key success factors required to achieve maximum benefits, and some details on the results.

In addition, in 2008 APC performance was reviewed to address process, equipment, and control system changes. A comparison of the performance of the original strategies from the implementation in 2003 to the enhancements added in 2008 is presented. In addition, the steps taken to improve the strategies and the resulting benefits are shown.

Finally, based on this and other similar projects, some key success factors to maintaining the performance of advanced control strategies are offered. These include the appropriate use of technology, available skill sets for implementation and support, and lifecycle cost and benefits.

(for further reading on this topic - contact Barry D. Payne & Associates, Inc. at www.bdpayne.com)

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