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Advanced Regulatory Control of a Dual-Train Cryo / Fractionator Plant

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Aux Sable Liquid Products Inc. owns and operates a 2.2 BCF dual train cryogenic NGL recovery facility with liquids fractionation near Channahon, Illinois. Aux Sable elected to implement Advanced Regulatory Control to improve performance and provide enhanced process upset management. Because there is a substantial amount of CO₂ in the Cryo plant feed, CO₂ composition controllers were implemented to control the bottoms composition of both Demethanizers with a specification of less than 1000 ppm. The raw inlet gas contains a blended stream of mixed NGLs which is subject to large variations. Because of this, feed-forward control was used to compensate for the effect of inlet gas BTU changes on the Demethanizer CO₂ control. Advanced Processing Rate control and residue compressor discharge pressure control was implemented on both Cryo trains. The residue compressor discharge pressure is varied to maintain a minimum delta pressure to the pipeline customer with the lowest delta pressure across their inlet valve. Model-based composition control was implemented on the fractionator. All controls were implemented in the existing DCS to provide for simplified maintenance and reduce the cost of implementation.

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

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