

QUARTERLY PROGRESS REPORT

Report Title: Field Demonstration of a Membrane Process to Separate Nitrogen from Natural Gas: Third Quarterly Progress Report

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Abstract

The original proposal described the construction and operation of a 1 MMscfd treatment system to be operated at a Butcher Energy gas field in Ohio. The gas produced at this field contained 17% nitrogen. During precommissioning of the project, a series of well tests showed that the amount of gas in the field was significantly smaller than expected and that the nitrogen content of the wells was very high (25 to 30%). After evaluating the revised cost of the project, Butcher Energy decided that the plant would not be economical and withdrew from the project. Membrane Technology and Research, Inc. (MTR) continued to negotiate a marketing and sales partnership with ABB Lummus Global, a large multinational corporation. MTR will be working with their Randall Gas Technology group, a supplier of equipment and processing technology to the natural gas industry.

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Introduction

The natural gas specification for inert gases is less than 4%. On this basis, about 17% of known U.S. reserves of gas are subquality due to high nitrogen content. Some of this gas can be brought to pipeline specifications by dilution with low-nitrogen-content gas; some is treated by cryogenic condensation and fractionation. Nonetheless, about 1.0 trillion scf of known reserves are currently shut in.

This project covers the first demonstration of a new membrane technology to treat this otherwise unusable gas. The objective of this project is to develop a membrane separation process to separate nitrogen from high-nitrogen-content natural gas. To demonstrate the process, a proof-of-concept plant will be built and operated.

Experimental

No experiments were performed during this reporting period.

Results and Discussion

The original proposal described the construction and operation of a 1 MMscfd treatment system to be operated at a Butcher Energy gas field in Ohio. The gas produced at this field contained 17% nitrogen. During precommissioning of the project, a series of well tests showed that the amount of gas in the field was significantly smaller than expected and that the nitrogen content of the wells was very high (25 to 30%). After evaluating the revised cost of the project, Butcher Energy decided that the plant would not be economical and withdrew from the project.

MTR continued to negotiate a marketing and sales partnership with ABB Lummus Global, a large multinational corporation. We will be working with their Randall Gas Technology group, a supplier of equipment and processing technology to the natural gas industry.

Conclusion

Negotiations with ABB Lummus Global are progressing and are expected to result in an agreement within the next three months.

References

None cited.