

QUARTERLY PROGRESS REPORT

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

Type of Report: Quarterly progress report

Reporting Period: October 1, 2001 through December 31, 2001

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Date of Report: April 10, 2003

DOE Award Number: DE-FC26-01NT41225

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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) and Butcher agreed that MTR would be free to select another partner for this project.

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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 and Butcher agreed that MTR would be free to select another partner for this project.

MTR created a Hazardous Substance Plan for the project. Only two chemicals used in the manufacture of membrane modules are listed in 40 CFR 261, Subpart D. The Plan was submitted in March 2003.

Conclusion

MTR will seek another partner for the project.

References

None cited.