

## Natural Gas Flow Optimization Using Pressure Profiling and Isolation Techniques

**Authors :** Syed Tahir Shah, Fazal Muhammad, Syed Kashif Shah, Maleeha Gul

**Abstract :** In recent days, natural gas has become a relatively clean and quality source of energy, which is recovered from deep wells by expensive drilling activities. The recovered substance is purified by processing in multiple stages to remove the unwanted/containments like dust, dirt, crude oil and other particles. Mostly, gas utilities are concerned with essential objectives of quantity/quality of natural gas delivery, financial outcome and safe natural gas volumetric inventory in the transmission gas pipeline. Gas quantity and quality are primarily related to standards / advanced metering procedures in processing units/transmission systems, and the financial outcome is defined by purchasing and selling gas also the operational cost of the transmission pipeline. SNGPL (Sui Northern Gas Pipelines Limited) Pakistan has a wide range of diameters of natural gas transmission pipelines network of over 9125 km. This research results in answer a few of the issues in accuracy/metering procedures via multiple advanced gadgets for gas flow attributes after being utilized in the transmission system and research. The effects of good pressure management in transmission gas pipeline network in contemplation to boost the gas volume deposited in the existing network and finally curbing gas losses UFG (Unaccounted for gas) for financial benefits. Furthermore, depending on the results and their observation, it is directed to enhance the maximum allowable working/operating pressure (MAOP) of the system to 1235 PSIG from the current round about 900 PSIG, such that the capacity of the network could be entirely utilized. In gross, the results depict that the current model is very efficient and provides excellent results in the minimum possible time.

**Keywords :** natural gas, pipeline network, UFG, transmission pack, AGA

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