

Multi-echelon supply chain design in natural gas industry

ABSTRACT

In this paper, a framework is proposed for integrating of the operational parts of Natural Gas Transmission Systems (NGTSs) through pipelines and better coordination for the flow of natural gas and information in the system. The objective functions of this study are to provide a brief review of literature in natural gas supply chain modeling and to design a multi-echelon Supply Chain for the Natural Gas Transmission Systems (NSTSC). To achieve this, extensive and detailed studies in this field of research have been done. Subsequently, a complete study on the transmission of natural gas through pipelines, as well as the supply chain and its application, has been made in gas industry. Next, based on the operational systems in the natural gas industry, the supply chain levels are developed. These designs are very effective for modeling and optimization of the gas networks. In addition, the developed supply chain helps to reduce the costs of the NGTSs and increase customer satisfaction.

Keyword: Natural gas networks; Optimization; Transmission pipeline; Modeling; Review