Design and Development of a Comprehensive Software for Risk Management of Pipelines Carrying Natural Gas: Conceptual Design

Nowadays natural gas is the main source of energy in most of the countries. This energy carrier is used as a fuel in residential areas and for automobiles, power stations, and other industrial units. Gathering, transmission, and distribution pipelines carry the NG from wellhead to endusers. These pipelines are exposed to various types of risks, such as corrosion, ground movement, third-party interference, etc. regarding the critical role of NG in Iran and the risk of fire and explosion, it is necessary to identify, assess, and manage the risks of these pipelines properly. Since the risks of different sections of NG pipelines are completely different from each other, design, development and use of a comprehensive software will be helpful in complex procedure of managing the risks of NG pipelines. In this work, the essential features of such software are surveyed.

Keywords: Risk Management, Natural Gas, Pipeline, what-if review, DMRA, software