

천연가스배관에서 개인적 위험과 안전거리의 상관관계

조영도*, 이경식, 이동훈, 길성희, 이승현, 류영돈, 윤영기,
이진한, 박교식, 김지윤
한국가스안전공사
(ydjo@kgs.or.kr*)

The pipeline operators and regulators must address the associated public safety issues. The codes related to high pressured gas pipeline in Korea does not denote the minimum separation distance between buried pipeline and surrounding building. The separation distance has close relation with individual risk. Quantitative risk analysis[QRA], i.e. individual risk and societal risk, is under consideration recently to regulate high pressured gas pipeline supplying gas to a cogeneration plant.

This paper focuses on finding out the relation between individual risk and the minimum separation distance to setup individual risk criterion of natural gas transmission pipeline. The minimum proximity distances between pipelines and buildings, minimum separation distance, is based on the rupture of the pipeline and the distances where chosen to correspond to a radiation level of approximately 32 kW/m². Using the design criteria of steel pipelines for high pressure gas transmission(IGE/TD/1) in UK, the minimum building proximity distances for rural area are located between 10⁻⁵ and 10⁻⁶ of individual risk.