

A risk-assessment comparative study for Underground piping based on Reliability-based design

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In Europe and other advanced country, RIMAP is used for managing pipe. RIMAP(Risk-Based Inspection and Maintance For European Industries) is method about safety. To use RIMAP, we can determine the grade of risk and establish a strategy of maintenance of pipe. However, this methodology is dependent on the accident data and it is not consider some uncertainty factor. To consider uncertainty factor, we can apply RBDA methodology. RBDA(Reliability-based design and assessment)is method for calculate reliability of pipe. Failure probability is calculated by quantify resistance and load of pipe. Especially resistance and load is calculated from various defect which can occur in pipe. in this paper, calculate a risk of several example by RIMAP and RBDA and compare the result of RIMAP and RBDA method. Finally examine the level of confidence that is required for domestic pipe management