IMPLEMENTATION OF RISK ASSESSMENT ON THE GAS PIPELINE BADAK WAY - BONTANG

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ABSTRACT

Pipeline is a static equipment to distribute the fluid in the form of liquid or gas. While risk is defined as the combination of likelihood of failure and consequences if a failure occurs.

The Implementation in this research conduct using index model or scoring which developed by W. Kent Muhlbauer. Scoring method based on cause of third party damage index, corrosion index, design index, incorrect operation index and leak impact factor. Risk level was performed by using help of 4x4 matrix and classified into low, medium, and high risk category. This implementation was applied in gas pipeline Badak way - Bontang along 2.5 km that divided into three sections based on environmental condition which a length of 500 meters.

The result of pipeline risk assessment Badak way Bontang, obtain final index score each section were 244.89 in section 1, 244.99 in section 2 and 255.69 in section 3. Final score of leak impact factor were 3.5 in section 1, 2.3 in section 2 and 1.16 in section 3. Based on risk mapping from matrix 4x4 obtain that all section were in medium risk category.

Based on all around result is necessary mitigation and prevention in section which had lower score (high risk) of section 1 and 2. So it is can be reduced into lower risk. Prevention effort can be used by integrity verification and shorten interval of periodical inspection.

Key Words: index, pipeline, risk assessment, risk matrix.