Abstract

Process safety is one of the main factors that are often covered by the chemical industries in recent years. One quantitative method that can be used to identify, analyze, and determine the level of hazard is the Fault Tree Analysis method (FTA) which with the results of this analysis can provide advice on proper handling of the system that has the highest risk and prevention capabilities or reduction of risk or so-called Safety Integrity Level (SIL). To increase the SIL there are some results that can be done such as increasing the test interval, using safety redundant, replacing component with lowest values of mean time to failure (MTTF) or failure rates, change the logic solver from the pneumatic to Programmable Logic Controller, or a combination of each way.

Keywords: safety integrity level, offshore production facilities, fault tree analysis, test interval, safety redundant, programmable logic controller, mean time to failure (MTTF)
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