

Application of Quantitative Risk Based Inspection For Compressor Station

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Pressurized equipment, such as vessels and piping systems maybe suffer from several degradation mechanisms affecting their integrity throughout their life cycle. The consequences of failure can be severe in terms of people, environment, assets and reputation. Conventionally, regular inspection and maintenance tasks are prescriptive based on regulations requirements. They neither take much care of failure type, nor the numerous uncertainties and the risk arising from the degradation processes. Thus, they result in suboptimal inspection and maintenance strategies and provide little rationale towards the decision making process. To make better decisions and provide good rationale for asset assessment of the failure mechanism and potential outcome of incident, many companies use a risk based approach. API RP 580 & 581 are the international standards that provides guidance for developing risk based inspection to optimize inspection tasks and for pressure equipment. This paper describes a quantitative risk based approach and its application to the inspection of a compressor station.