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Industrial Safety Engineering: A Sustainable Solution For Oil, Gas And Refinery Industries

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Abstract

Safety always being a major concern of any sort of industry since past century. Safety decisions are different for various working situations and surroundings. Oil, Gas distribution organizations or Refinery are home of flammable liquid. So the safety systems of these industries are mostly different from other industries. So different strategic plan & safety model is a must for those highly integrated industries. Before constructing a solution potential hazards are identified and listed down in common categories. To identify hazards and their risk level risk assessment matrix is being used. After classification according the taxonomy model a decision is taken using administrative hierarchy. The hierarchy of control is designed for 2 types of decision. Design stage decisions and Safe work decisions are determined by the type and effect of accident. Finally 14 crucial safety factors are identified and those factors are tested via collected data and simulation. Data was collected through a questionnaire by visiting related industries like Eastern Refinery Ltd. Bangladesh. A statistical analyzed model has been constructed to show how sustainable the formulated model compared to mathematical calculation.

Keywords
Safety engineering, Safety, Hierarchy of control, Risk and Reliability, Factor analysis