

Introduce a novel barrier classification

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Abstract: This paper aims to introduce a barrier modelling technique to use through the design processes of industrial systems. In this model, the barriers are classified according to their effects on the failures and resulted accident process. In this paper, the occupational accidents modeled. The basis of barrier analysis is used to define an accident as the impact of a hazardous agent on a target, as a result of failure of barriers. This definition is enhanced to introduce a novel accident model. The efficiency of barriers are compared by considering their position in the successive protection layers. This approach can be used in complex systems to develop accident models and to estimate the importance of barriers.

Keywords: Risk analysis, accident model, HAZOP, barriers, failures mode, barrier analysis
