Got a Risk Reduction Strategy

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Abstract

Process safety can be viewed as part of a triad that supports safety in a petrochemical facility. The other two parts are OSHA-type people safety (slips, falls, etc.) and industrial hygiene. The paper will look at process safety from a top down, plant centric view. Process safety can be distilled down to the basic concept of risk reduction. If we reduce risk, our facility will be safer. The obvious problem is that we have potential risks everywhere so how are we going to reduce all these risks to an acceptable level. Clearly we need a strategy or to use a less fancy word – a plan.

Too many times it is easy to concentrate on certain aspects such as safety instrumented systems (SIS), layer of protection analysis (LOPA), behavioral safety, prevention, etc. and lose track of the whole picture of what risk reduction entails in a plant.

This paper will look at risk reduction in a facility from a top down viewpoint but cover the details and concepts of risk reduction across a wide spectrum of plant functionalities – management of process safety, management of functional safety, safe process design, mechanical integrity, risk assessment and the layer of protection approach, continuous improvement, and sustainability. It will also discuss the concept of a hazard from beginning to end and where risk reduction can occur in the lifecycle of a hazard. It will also discuss some key principles in risk reduction as well as how risk reduction fits into a typical plant organizational structure.