



Living with LOPA Changes in the new CCPS Book

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ABSTRACT

A new CCPS (Center for Chemical Process Safety) book is soon to be released that will greatly impact how Layer of Protection Analysis (LOPA) is practiced across the industry. The new book is a supplement to the first CCPS/AIChE guideline issued in 2001. There are eight new issues identified in the book:

- Using all maintenance and validation practices listed in the guideline if you use the listed values for PFD (Probability of Failure on Demand)
- Using BPCS (Basic Process Control Systems) as an IPL (Independent Protective Layer)
- Increasing PFD for relief devices if block valves are present upstream or downstream of the device
- Increasing PFD for SIF (Safety Instrumented Function) to include human error impact when testing SIFs
- Differentiating loss of containment IE (Initiating Event) into two separate categories of material sensitive services and standard services
- Calculating and validating human error IEF (Initiating Event Frequency) and IPL
- Eliminating IE of external fire
- Addressing the presence of extra safeguards

Specifics in each of these eight categories will be shared to assist LOPA practitioners and owners to understand the new issues and prepare for the impact of these changes. In many cases, the new guideline methodology will require additional layers of protection to satisfy LOPA.