



**MARY KAY O'CONNOR
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Process Safety Fundamentals – Making Process Safety ‘Real’ in the Field

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Abstract

Process safety management aims to ensure that all physical assets are well designed, safely operated and properly maintained. Process safety management is central to achieving Shell's Goal Zero ambition of no harm and no leaks across our operations. Shell's approach to achieving this combines our asset integrity principles with our risk management approach, which is based on the "bow-tie" model.

Continuous improvement in the management of hardware barriers and the robustness of human barriers is important to our overall risk management approach. Within the overall improvement trend, the number of technical integrity related events has significantly reduced. This suggests that operating integrity incidents make up an increasing fraction of process safety incidents, and, deeper process safety leadership and a different approach to behavioural change at the front line may be required to maintain improvement.

Analysis of operational integrity events in Shell identified that a small set of human barriers contribute to half of the releases and it is likely that the potential for these occurrences could have been reduced by people adhering to known good operating practices. From this analysis, a set of "Process Safety Fundamentals" were derived. The Process Safety Fundamentals were first rolled out across our Downstream Manufacturing Business. Building on the Manufacturing experience, and further incident analysis, an updated set of ten Process Safety Fundamentals are being rolled out across our businesses.

The ten Process Safety Fundamentals and the roll-out uses Hearts and Minds principles to engage the workforce and unlock process safety leadership at all levels. The Fundamentals aim to leverage the knowledge of a capable workforce, supporting them to apply known safe operating techniques.