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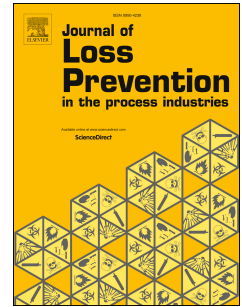
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A JOURNEY TO EXCELLENCE IN PROCESS SAFETY MANAGEMENT

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ABSTRACT

The benefits of achieving excellence in process safety are multifold: it reduces the probability of chemical incidents, mitigates the consequences of incidents when they occur, and provides effective emergency response. In addition, excellence in process safety contributes to sustainability, quality, and improved productivity. While most people would agree with these overarching concepts, the more important question is what are the ingredients for excellence in process safety? Even more important is that once an organization accomplishes this level of performance, what actions or programs are needed to maintain that level in perpetuity? This review tracks issues that hinder the achievement of excellence and provides solutions to remove them through the development and implementation of programs aimed at accomplishing and maintaining that excellence.

Often incidents are linked to internal organizational issues; but the journey to excellence in process safety starts with external influences as well as commitment from the highest levels of leadership from within the company. Starting from the importance of appropriate regulations, and how they should be developed, this paper discusses what individual organizations can do in terms of setting and enforcing strict operational discipline, ensuring competency of all personnel, and learning and implementing the learnings from past incidents for pushing forward on process safety performance.

Keywords: Process safety; excellence; prevention; mitigation; response

1. INTRODUCTION

According to the 2017 revision of United Nations' World Population Prospects, the current world population of 7.55 billion is expected to increase 14% by 2030 and 30% by 2050 (United Nations Department of Economic and Social Affairs (Population Division), 2017). Fig. 1 projects the growth trend of world population over time and shows the sharp increase in recent times.

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