

**Technical Talk: My Life in Safety - Lessons in Performance Improvement**

By Ir. Shamila Ariaratnam

Honorary Secretary and Treasurer of the Electrical Engineering Technical Division

Dr Krishna M. Bala was invited by the Electrical Engineering Technical Division and Special Interest Group - Safety in Engineering to deliver a talk based on his book by the same title on 17 June 2023. Much of my write up on the talk is not only from the talk itself but also combining my read of the book. A total of 30 participants set aside their precious Saturday morning to join him as he revealed his safety journey to us.

He shared the importance of taking system approach. To him, system means a holistic view of the synergies between people, plant, process that work to create value. He was not always into safety but fate had him take on his first full-time safety role in 2001 with Shell E&P Americas. This required him to uproot his family from Kuala Lumpur to New Orleans. Not only was it a new job or role but also a big step into a new country. He held leadership roles in frontline operations – as an Offshore Installation Manager and as a Plant Superintendent onshore. These frontline roles led him closely to safety tensions and pinch points at the sharp end of the business, building a better person in safety leadership. The management of major incidents meanwhile taught him inerasable lessons.

The talk provided vital lessons that have consequences much wider than just safety. Safety should be approached holistically rather than the typical way safety performance is constantly addressed. The same problems that affect quality, delivery and cost are more often than not also the same that affect safety issues and vice versa. Hence, addressing safety performance can indirectly boost organizational performance as well.

Practicing professionals in safety often grapple on matters to focus on, true problems and methods used to tackle them. From the extensive sharing of real world live experience and insightful stories, Dr Krishna was able to prove that the use of data to drive safety improvements is key to the overall success of any organization.

Gone are the days where gut feel can be used to improve safety processes, programs or initiatives. Data driven interventions addressing the true root causes of safety issues will definitely kick out the usual excuse “that’s what we have always done”. Holistic data and systems driven approach to explain safety incident and its lesson learnt will provide a firm basis for safety performance enhancement. Moreover, data is obtained from the people – process – equipment – environment of a system. Hence, making it more robust in determining the true root causes to safety issues, avoiding intervention that addresses only the surface level from direct observation.

We got to know that “Getting-to-Zero” and “Staying-at-Zero” is a change management project. It is about leveraging people, plant and processes. He also shared “The Flow: Considerations from Data to Plant” which encompasses an overview on how to look at data to plan an intervention. Each of us were given a copy of “The Flow”.

When we look at data, we must have an appreciation of the context and always be humble to perform a red face test of the hypothesis. A systematic trend analysis can provide a spring board for sustained improvement. However, data alone is insufficient. The best insights come from combining data with contextual experience.

Organizations are complex systems and sustaining developments in safety requires continual learning in order to understand the relationships between people, processes and systems. As the famous saying goes “learning never ends”. We hope the sharing by Dr.Krishna M Bala would inspire more engineers in taking safety more seriously in a holistically approach combining with data-driven programs.