

Safety Risk Management; missing the biggest risk of all?

We have all been surrounded by the language and tools of risk ever since Safety Management Systems [SMS] came to the aviation industry. Fascinating, compelling, and sometimes all consuming, the language is a natural component of any safety system, yet it also holds the potential to provide a convincing argument that safety risk is indeed being managed when the reality may be different. Let us not forget the Space Shuttle Challenger was 'risk managed' until the moment it exploded 73 seconds into flight, killing all 7 crew. The social aspect of that disaster involved convincing arguments, a belief that no harm was being done, and a slow but steady acceptance of elevated risk.

An extract from Professor Diane Vaughan's widely acclaimed book, *The Challenger Launch Decision*¹, highlighted; "Talk about risk, was by nature technical, impersonal, and bureaucratic – full of what to the uninitiated are meaningless acronyms, engineering terms and procedural references. Routinely used and taken for granted, the language did not lend itself to sending signals of potential danger."

Professor Vaughan went further to point out that *deviations* were redefined as 'acceptable risk' in official decisions thereby condemning NASA to an insidious drift away from standards. That is, risk boundaries were being slowly redefined, yet the very language designed to convey urgency was ineffective as an indicator of a serious issue or concern. The lessons from Challenger should not be so easily relegated to 35 years ago!

Back in May 2012, William Voss, then President and CEO of the Flight Safety Foundation published a brief article² in which he stated that the predictions around SMS had come true. Those predictions were, in summary, that SMS would become a process exercise, ICAO guidance would be 'regurgitated' and the evaluation of SMS by regulatory staff would be a challenge. Mr. Voss went further to suggest that SMS had also become complex, and many had lost sight of its core principles.

In 2017, I echoed similar thoughts in a brief industry paper³ and challenged the *popular* interpretation of SMS and the path it was taking. Based upon extensive aviation industry experience, I suggested that we took a 'reality check' if we were to prevent SMS becoming a burdensome compliance exercise that does nothing but create a false sense of confidence. I also raised the issue that extant regulatory obligations, designed to deal with many of the common hazards in aviation, appeared to be underwhelmingly represented.

There appears to be a growing uncertainty in the industry regarding the objectives and all too familiar complexity that accompanies many SMS. I have certainly felt the guidance provided to industry to be vague in some respects and in places contradictory to not only itself but to established practices required through regulations. Guidance can, on many occasions, foster an approach that relies upon a form of matrix and register; experience shows that this often fails to stand up to scrutiny, yet it remains, for many, central to current risk management strategies.

Equally, examine the decision making around the common interpretation of safety risk management and this commonly reveals well meaning, sanctioned risk taking that directly contradicts current regulatory requirements borne out of past accidents. There is now also evidence that the jargon is permeating all levels without the necessary precision with subsequent emergent and curious behaviours; those same behaviours often seen in past accident reports.

Extensive safety management exposure over the past 15 years has given me privileged insight to the inner workings of many organisations; all of them, like any organisation in any industry, suffer from similar strategic, tactical, and operational themes. Since SMS came along, we now have more tools,

processes, and procedures yet the same issues remain. Look deeper and an emerging trend can be seen whereby those issues are deemed an *acceptable safety risk*, particularly when resources are limited and objectives are unclear, as opposed to being addressed due to the *impact on* the level of safety risk. Opposing decision making philosophies, both convincing, both termed 'risk management' yet only one meets the objective of SMS which is to maintain safety risk at an acceptable level.

One principle of risk management is that of context; being able to stand back and critically think about how to best adopt the requirements for your organisation once the objectives are clear; this requires adequate and quality thinking time. Established intent based regulations and principles such as ALARP⁴ can easily be forgotten and as such the obligations they convey can, and are, being compromised regularly with the use of popular risk tools. Superb guidance such as the JAAHFWG⁵ report have been lost in time and we are destined to either re-badge this guidance under another name or worse still repeat the failures they were designed solve.

Creating safety management capability with a commensurate amount of critical thinking as to purpose is to be encouraged; misinterpretation can provide another layer to the *appearance* of safety and more sinisterly, it could easily be the very thing that leads us further into trouble? Most likely to be convincing to the people involved at the time, there exists a real potential to unconsciously dismantle many decades of hard work in the regulatory space; imprecise use of risk language can provide a degree of legitimacy, and we should therefore all be concerned by such developments.

Based on what I see and hear currently, I certainly feel uneasy with our risk management approach as it has very real potential to convince the uninitiated, mask the problem and support the insidious drift in the organisation. Maybe the biggest risk faced by industry is that of lack of clarity as to what Safety Risk Management is truly trying to achieve and what it looks like.

References

1. The Challenger Launch Decision. Risky technology, culture and deviance at NASA; Professor Diane Vaughan.
2. SMS reconsidered. flightsafety.org | AeroSafetyWorld | May 2012
3. The management of safety – A reality check. https://www.linkedin.com/posts/neil-richardson-71641572_principal-consultant-neil-richardson-and-activity-6403232944156086272-3uOF
4. ALARP [As low as reasonably practicable]. A trade off test that helps determine safety risk acceptability. It obligates the organisation to take all reasonable measures unless disproportionate to do so *prior* to undertaking operations and to maintain their effectiveness irrespective of the financial health of the organisation, resource limitations or the broader economic climate.
5. JAAHFWG. Joint Aviation Human Factors Working Group. Created to develop a series of initiatives, including the taking into consideration of Human Factors in Operations, Certification and Maintenance.