

WM2013 Conference Panel Report

PANEL SESSION 20: Culture - The Linchpin for Safety

Co-Chairs: Joe Yanek, *Fluor Government Group*
Tony Umek, *Fluor Corporation*

Panel Reporter: Judith Connell, *Fluor Government Group*

Panelists:

1. **Tony Muschara**, *Principal Consultant & Owner, Muschara Error Management Consulting, LLC*
2. **Andy Campbell, Ph.D.**, *Deputy Director, Office of Enforcement, US NRC*
3. **Emmy Roos**, *Marketing & External Affairs, Belgoproces (Belgium)*
4. **William Rigot**, *Senior Consultant/Project Manager, Fluor Technical Support Services*

This panel session focused on the critical role that culture plays in successful safety programs. The session opened with Joe Yanek briefly talking about the role of safety in the workplace. He then introduced the four panelists who shared their individual perspectives on what “safety culture” means in their working environments. **Tony Umek** closed the formal part of the session by thanking the panelists and opening the floor to questions.

Summary of Presentations

Tony Muschara began his presentation with a startling statistic: doctors and nurses working in U.S. Intensive Care Units (ICUs) have a reliability rate of 99%. That translates to an average of two mistakes every day. If a mistake costs a life, is 99% performance good enough? So, what does safety really mean?

Muschara shared that events of all kinds are always described as damage to, or loss of, an asset. An asset includes anything an organization or an individual values. The term culture implies values of many people who belong to the organization. Fundamentally, a healthy safety culture is a manifestation of the attitudes and choices people make regarding things important to them — assets they touch. An organization with a healthy safety culture should have a “fear of failure.”

There are many forums on safety culture, seemingly attempting to construct the latest and best definition. Yet, there’s little discussion on managing it. Muschara said he believes we make safety culture too complex, and managers don’t know how to “manage” it. Why can’t we simply make it clear to our workforce what the assets are for their work and give them ways to protect them from ourselves, i.e., human error? He emphasized that a *risk-based approach* offers the best operational philosophy to target and avoid the most important human failures in the workplace. Identifying and controlling critical steps gives workers and supervisors a systematic and repeatable approach to minimizing the frequency and severity of human performance events.

In closing, Muschara encouraged organizations to adopt risk-based approach:

- **Anticipate:** know what can go wrong
- **Monitor:** know what to pay attention to
- **Respond:** know what to do when something does go wrong

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- **Learn:** know what has happened, know what is happening now, know what to change.

Andy Campbell agreed with Muschara's characterization of a healthy safety culture, adding, "You are never comfortable," even when you have excellent safety performance. He went on to emphasize that generally, no single event leads to a catastrophe. Rather, an event is the result of a series of actions and reactions that are precipitated by a weak safety culture. His presentation focused on the Nuclear Regulatory Commission's Safety Culture Policy Statement and particularly on the traits of a positive safety culture, emphasizing their importance through four case studies:

- The collision of two Washington, DC metro trains resulting in the death of 10 people and the hospitalization of 52 because the past failures of the centralized computer system controlling the trains were ignored.
- The forced landing of the U.S. Airways jet on the Hudson River in New York where 155 passengers and crew were kept safe because the plane's pilot was prepared for, and knew what to do, in such a situation.
- The collapse of the Willow Island Cooling Tower in West Virginia that caused 51 construction workers to lose their lives due to several lapses in safety during construction (concrete was not sufficiently cured to support the weight of the scaffolding).
- The Upper Big Branch Mine Explosion in West Virginia where 29 out of 31 miners died production was more important than safety.

In pointing out that "safety culture is a journey," Campbell listed the traits of a strong safety culture: 1) leadership, 2) an environment that allows concerns to be raised, 3) a respectful work environment, and 4) a questioning attitude

Emmy Roos described Belgoprocess' core activities: managing centralized facilities for processing and storing radioactive waste, and decontaminating & decommissioning facilities and performing site remediation. She went on to say that it's important to conduct these activities in a way that ensures the safety of our employees and the population as a whole, with full consideration of the environment. Belgoprocess has therefore begun a strategic high-level program for continuous safety improvement on a company-wide basis – the "Strategic Safety Improvement Program (SSIP)." The program's objective is to assess and improve the company's processes for safety management and retain and further improve safety-related records, all focused on continuously building a strong safety culture. As part of the process, the company did a gap analysis between their ISMS and the IAEA's system and also underwent an independent review/audit by the Belgian Nuclear Safety Authority. In full transparency, the SSIP is posted on the company's website.

Bill Rigot opened his presentation by saying that "describing safety culture is like painting a picture" and showing a slide that depicted the "Raft of Medusa." The rendering, which took the French artist Gericault two years to paint, represents the aftermath of the French captain who ran the frigate *Medusa* aground off the coast of Mauritania. The accident resulted in the loss of 132 passengers and crew due to starvation, dehydration, cannibalism, and madness while floating for 13 days on a hurriedly constructed raft. "Practitioners of safety culture," said Rigot, "have the same challenges as Gericault in capturing and describing safety culture to leaders." The safety

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culture “picture” must be accurate and compelling, and, if necessary must align the company’s leadership team to proceed in a new direction to effectively change their culture.

Rigot continued, noting that the IAEA’s Technical Document (TECDOC) 1329 describes three levels of cultural maturity: safety based on rules and regulations (compliance), safety as an organizational goal (conduct of operations), and safety can always be improved (learning). He then showed how a company moving through each stage of maturity reduces its susceptibility to accidents. High-reliability organizations – ones that are true “learning” organizations – see problems as they are, focusing on system design and transparency to really see the problems. These organizations also swarm and solve the problems as they are seen, spread/communicate new knowledge and then lead, by increasing the capacity for learning by leadership mentoring. After presenting three case studies (one involving a commercial entity and two citing government organizations), each of which highlighted various scenarios and pressures that can affect safety, Rigot ended with the following statements:

- Safety is not the absence of accidents – it is the presence of defenses in your processes, procedures and methods.
- What we do for a living is keep failure from being successful.

Questions and Answers

1. Do you do safety culture surveys?

Tony Muschara responded that he does not do surveys but goes and watches what people are actually doing.

2. How do you make safety a value?

Answer: you pay attention to what your boss pays attention to.