

Outcomes of the IAEA Safety Culture Conference 2016



Helen Rycraft

Operational Safety Section

Division of Nuclear Installation Safety

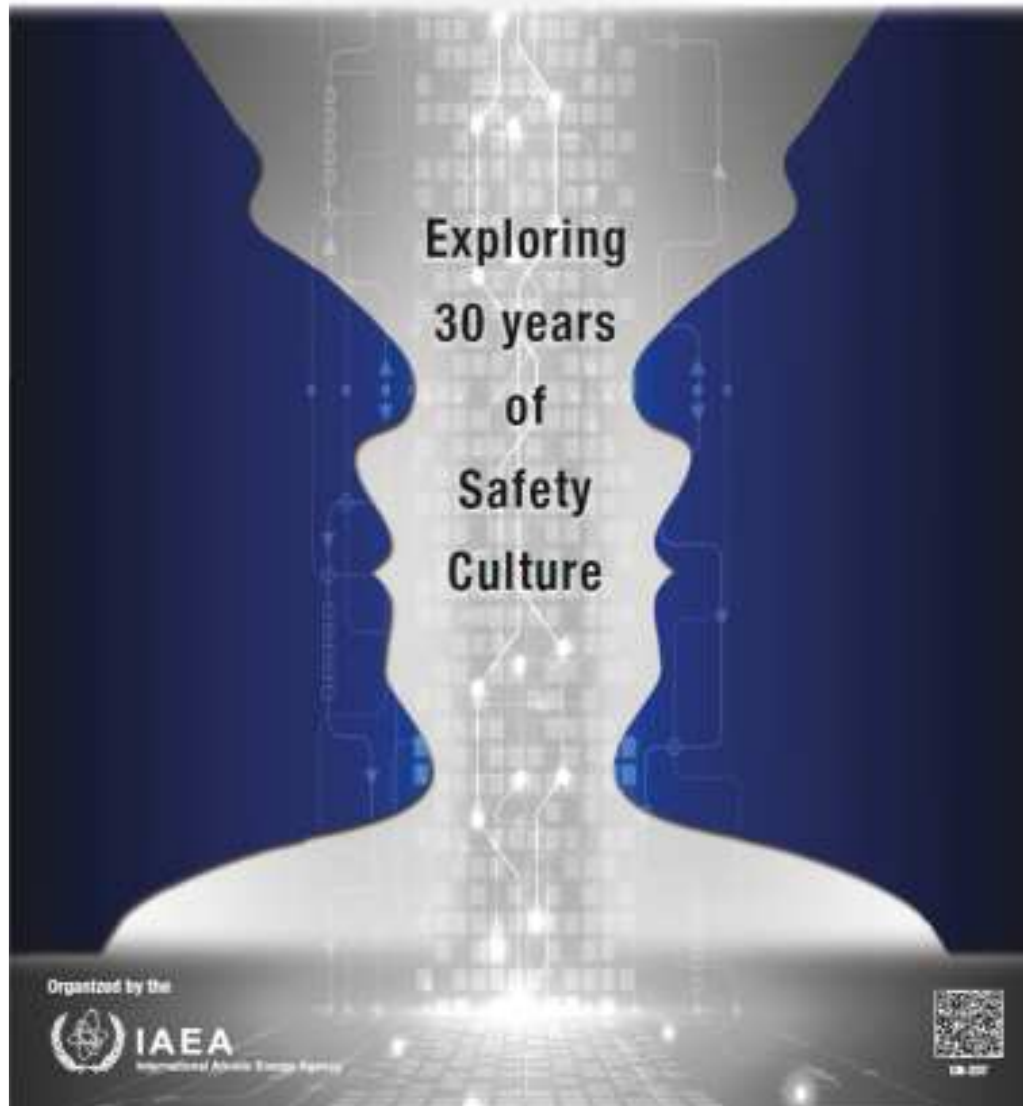


IAEA

International Atomic Energy Agency

International Conference on
**Human and Organizational Aspects
of Assuring Nuclear Safety**

22–26 February 2016 Vienna, Austria



- The IAEA marking 30 years of work with strengthening safety culture worldwide
- 22 to 26 February 2016
- TOPICS
 - Safety Culture/Culture for Safety
 - Human and Organizational Factors
 - Leadership and Management for Safety
 - The Systemic Approach to Safety (The Interaction between Human, Technical and Organizational Factors)
 - Resilience Engineering
 - High Reliability Organizations
- 350 participants from 56 Member States and 7 Organizations
- 70 presentations, 34 dialogue sessions, 3 plenary dialogues
- Chair: M. Weightman

Conference objectives

- **Review past experience** gained with regard to human and organizational factors (HOF), safety culture and leadership for safety;
- Share and gather experiences related to **current developments**, approaches, methods and research in the areas of HOF, safety culture and leadership for safety; and
- **Identify the future needs** for building organizational resilience capabilities in order to further strengthen defence in depth for nuclear facilities and activities.

Preliminary outcomes safety culture conference (1): Leadership for safety → **leadership for openness and trust**

- Creating *psychological safety* – relationships where people feel safe to openly share concerns and insights
- Listening and aligning realities: “*We can’t fix what we don’t know about and understand*”
-N.Stavropolous, President, Gas, at Pacific Gas and Electric Company
- *Humble inquiry and shared space* – techniques creating trust-filled relationships

“Schedule and productivity should not overwhelm safety. It starts in the interpersonal relationships at the very top between the CEO and his subordinates, creating trust and openness.”



Edgar Henry Schein

USA

Sloan Fellows Professor of
Management Emeritus at
MIT's Sloan School of Management



IAEA @iaeaorg · Feb 23

Prof Emeritus from @MITsloan explains role of interpersonal relationships in safety at #SafetyCulture2016 #IAEA



Retweet 10

Like 8



Preliminary outcomes safety culture conference (2): From safety culture to **culture for safety**

- Departing from idea of “safety culture” as an “object” to be implemented, realizing culture is created in every act performed
- Asking instead: *How does the organizational culture support safety?*
- A call for aligning approaches: *Culture for safety, security, safeguards*
- Need for scientifically sound cultural work
 - Avoiding “hyper culture” (M Alvesson Sweden)
 - Culture assessments based on multiple sources of data
- **Regulatory Bodies play a crucial role** – for own and licensee's culture for safety

Preliminary outcomes safety culture conference (3): Systemic approach to safety

- **Complex systems = cause \neq effect**, inherently unpredictable,
– need to strive to understand the systemic interactions
- Nuclear organizations do not exist in isolation – culture for safety needed across the industry, incl. government, RB, suppliers
- Practical application:
 - ***Collaborative approach*** among multiple stakeholders, (suppliers, governments, educational institutions, regulator, media...)
 - ***Interdisciplinary appreciation***
- The public's perspective – ultimately decides what is considered “safe” or not

"The aviation industry has succeeded in improving safety through a collaborative approach - bringing all of the key parts of the industry together to develop solutions. This is worth exploring for the nuclear industry."



Christopher A. Hart

USA

Chairman of the
National Transportation Safety Board



IAEA @iaeaorg - Feb 25

Solutions in others' success worth exploring in [#nuclear](#) industry, says Chairman of US [@NTSB](#) at [#SafetyCulture2016](#)

Preliminary outcomes safety culture conference (4): Learning from other industries

- A series of three Sessions invited other high risk industries to share approaches
 - Oil and gas
 - Chemical
 - Aviation
 - Transportation
- All deal with humans, organizations, culture, complexity – **we have more in common than what divides us**
- Call for nuclear to apply lessons learned in a collaborative manner

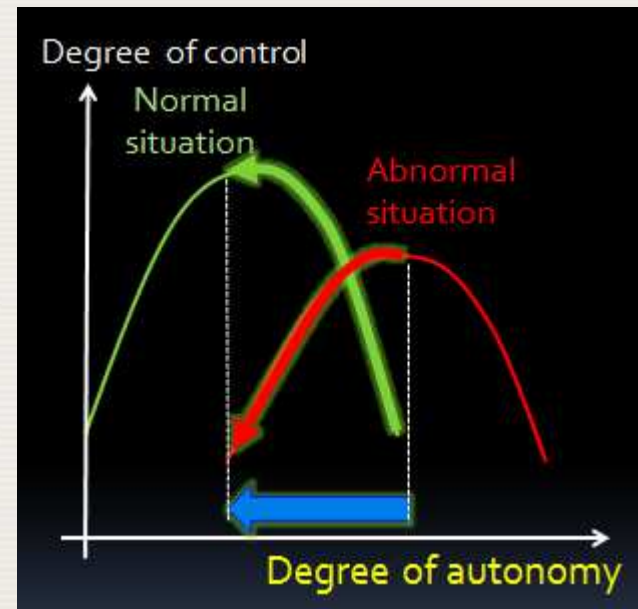
Preliminary outcomes safety culture conference (5): Complacency and how to avoid this

- State of the art safety science – **Resilience engineering**
- “Frequency of low severity events is perceived as a good assessment and driver of disaster probability – but empirical evidence shows this is not the case”

Example: Decreasing staff autonomy (higher compliance to predefined responses)

Increases the odds that a normal situation stays normal

But decreases the odds for recovery in case of unexpected events



Source: J. Paries, Dedale

Recognition that:

“People are not a problem to be fixed”

Culture for Safety is for all nuclear and radiological organisations and all countries, and mindful that :

“one approach does not fit all ”

Call for Action from conference

- Leadership for safety in practice, across cultures
- Culture for safety – guides and training
- Organizational Learning is a support to safety culture – development of OE to Org L
- Systemic approach to safety – methods and coordination with “integrated management system” and understanding complexity.
- Social perception of Risk – understanding the impact
- Regulator and Culture for Safety
- State of art review – resilience engineering plus organisational resilience



...Thank you for your attention